



**CLUSTER UNIVERSITY SRINAGAR**  
**SYLLABUS (FYUP UNDER NEP 2020)**  
**Offered By Department of Biotechnology and Botany**  
**Semester 1<sup>st</sup> Skill Enhancement Course (SEC)**  
***Course Title: Plant Tissue Culture Technician-I***

**Course Code:** AGR/Q8101 (UGPTC23S102)  
**Credits:** 4 (Theory: 1, Practical: 3)  
**Contact Hrs:** 105 (Theory: 15, Practical: 90)

**Max. Marks** 100  
**Theory:** 25; **Min Marks:** 10  
**Practical:** 75, **Min. Marks:** 30

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**Objectives:**

- To understand different techniques for production of explant
- To prepare explant and media for explant.

**Training Outcomes:**

After completing this programme, participants will be able to:

- Well equipped with sanitation of lab measures and safety guidelines to be adopted in the lab.
- Understand different techniques for production of explant
- Prepare explant and media for explant.
- Trained Plant Tissue Technicians, experienced in performing various activities such as preparing the lab, culture media and mother plant, extracting, preparing, planting and maintaining explants.

**Unit I**

**Introduction I:** General principle in the tissue culture laboratory (do's and don'ts), Terminology used in plant tissue culture; instruments used in plant tissue culture lab.

**Unit II**

**Introduction II:** Scope and importance of tissue culture in agriculture; different explants used in plant tissue culture; Role of tissue culture technician in development of new plants.

**Unit III**

**Sanitation and safety guidelines of the lab I:** Requirements and the working of different chambers of the tissue lab culture room, freezer room, inoculation room, instrument room, germinating room, store room.

**Unit IV**

**Sanitation and safety guidelines of the lab II:** Principles of different equipment; labwares and use of different chemicals; personal protective equipment, lab coat, gloves, head cap, face masks, goggles as per the work requirement.