Growing Green: Methods and Techniques in Plant Tissue Culture (7 days)

Module Content
Introductory Lecture on GLP Introduction to Plant Biotechnology & Plant Tissue Culture
Preparation of PTC hood, and glassware sterilisation.
Preparation of Stocks Solutions Hormone Stocks Solutions
Preparation of Culture
Media Explant Surface Sterilization Preparation
Micropropagation, Callus Culture, Embryo Culture, Anther Culture, Meristem Culture.

Growing Green: Methods and Techniques in Plant Tissue Culture (15 days)

Module Content
Introductory Lecture on GLP Introduction to Plant Biotechnology & Plant Tissue Culture
Seed germination experiment: Preparation of cotton bed & filter paper bridge for in vitro plant culture
Seed viability checking by TTC method
Morphology study of seedlings grown *in vitro*
Preparation of graph report & presentation
Preparation of PTC hood, and glassware sterilisation.
Preparation of Stocks Solutions Hormone Stocks Solutions
Preparation of Culture

Media Explant Surface Sterilization Preparation
Micropropagation, Callus Culture, Embryo Culture, Anther Culture, Meristem Culture.

Growing Green: Methods and Techniques in Plant Tissue Culture (30 days)

Module Content
Introductory Lecture on GLP Demonstration and Handling of Instruments Introduction to Plant Biotechnology & Plant Tissue Culture *Formation of groups & allotment of their work
Preparation of cotton bed & filter paper bridge for in vitro plant culture
Seed sterilisation, inoculation & stress induction in Petri plates
Stress treatment to seeds (Drought & Salt stress) & viability checking by TTC method
Sterilisation techniques specific to plant culture- glassware sterilisation
Preparation of stock solutions, Hormone stock solutions
Preparation of culture media for plants
Preparation of PTC hood Explant Preparation and Surface Sterilization Culture preparation from preformed culture media
Callus Culture, meristem culture, Micropropagation by Shoot Tip, nodal segment(Explant)
Morphology study of seedlings grown in vitro

Preparation of graphs
Preparation of reagents & protein isolation from plant sample (Control & Stressed plant)
Determination of protein by Bradford method
Enzyme isolation from plant sample & Antioxidant Assay (GPOX) (Control & Stressed plant)
Preparation of graphs in Excel
Isolation of genomic DNA from plants and its gel electrophoresis