

Republic of Iraq

The Ministry of Higher
Education

& Scientific Research

بسم الله الرحمن الرحيم



University: Diyala
College: Agriculture
Department: Horticulture and
landscaping
Stage: Fourth
Lecturer name: Ayad Assi Obaid
Scientific title: Prof.
Qualification: PhD
Place of work: College of Agriculture

Flow up of implementation celli pass play

Course Instructor	Ayad Assi Obaid						
E-mail	ayadassi@uodiyala.edu.iq						
Title	Plant tissue culture						
Course Coordinator	The first chapter \ Stage 4						
Course Objective	Application of plant tissue culture technique , Micropropagation						
Course Description	Micropropagation, initial and culture of callus, isolation of protoplast, secondary metabolites production, production of plant free from virus.						
Textbook	Plant tissue culture, dr. M. A. Salman - plant biotechnology T. K. Ramawat.						
References	Plant tissue culture, dr. M. A. Salman - plant biotechnology T. K. Ramawat.						
Course Assessment	The first monthly test (theoretical)	The second monthly test (theoretical)	The first monthly test (Lab.)	The second monthly (Lab.)	Final examination		Final grade
					theoretical	Lab.	
	14	14	6	6	40	60	100

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the week	the date	Topics Covered	Practical Part	Notes
1		Introduction and history of plant tissue culture	Getting started with Tissue culture : Media preparation , Sterile	
2		Physiological factors affecting growth and morphogenesis	Getting started with Tissue culture : Media preparation , Sterile	
3		Using tissue culture for plant propagation techniques	Getting started with Tissue culture : Media preparation , Sterile technique and laboratory equipment	
4		Micropropagation In vitro : Uses and Methods	Getting started with Tissue culture : Media preparation , Sterile technique and laboratory equipment	
5		Micropropagation In vitro : Uses and Methods	Organic addition, Osmotic and PH effects.	
6		Problems of Establishment : Phenolic Oxidation	Organic addition, Osmotic and PH effects.	
7		Secondary products.	Sterilization.	
8		Initiation and Growth of Callus	Explant using in plant tissue culture.	
9		Protoplast isolation and culture	The use of meristem and shoot tip culture in microprapagation in vitro	
10		Organ culture: Organogenesis.	The use of meristem and shoot tip culture in microprapagation in vitro	
11		Embryo Culture : Embryogenesis	The use of meristem and shoot tip culture in microprapagation in vitro	
12		Haploid and Anther culture	The use of meristem and shoot tip culture in microprapagation in vitro	
13		Meristem and shoot tip culture	Callus Initiation	
14		Meristem and shoot tip culture	Problems of Establishment	
15		Physiological factors affecting growth and morphogenesis	Problems of Establishment	


Teacher's signature
Prof. Dr. AYAD ASSI OBAID
15/1/2025


Dean' signature
Prof. Dr. Raaed Ibrahim Khalil
15/1/2025