

End Semester/Reappear (Semester VI) Examination May 2025

Programme: B. Sc. (Hons.) Agriculture
Course: Protected Cultivation and Secondary Agriculture
Course Code: 13A.367
Enrolment no. _____

Full Marks: 50
Time: 2 Hrs.

Q.No.	Questions	CO	Bloom Taxonomy Category	Marks
Section I				
1	Short Answer type questions.			
a	Discuss why greenhouse cultivation is advantageous as compared to open cultivation.	CO1	Remember	4 x 5 = 20
	or			
b	Apply the basic principles of greenhouse planning to suggest a suitable greenhouse type for a hot-arid region.	CO1	Apply	
	or			
c	Differentiate between drying and dehydration with examples.	CO2	Analyze	
	or			
d	Discuss about the covering materials used in green house.	CO2	Understand	
	or			
e	Discuss physical properties of pulses.	CO3	Understand	
	or			
f	Explain thermal properties of Cereals.	CO3	Understand	
	or			
g	Discuss solar dryers and their significance.	CO4	Understand	
	or			
h	Describe deep bed dryer with its significance.	CO4	Remember	
	or			
Section II				
Long Answer type questions. Answer any two.				2 x 15 = 30
2	a. Analyze how the bulk density, porosity, and moisture content of cereals influence the design of storage bins and hoppers.	CO3	Analyze	10
	b. Explain mechanical properties of food materials.	CO3	Remember	5
	or			
	a. Analyze the role of thermal conductivity and specific heat in designing drying systems for pulses and oilseeds under varying environmental conditions.	CO3	Analyze	10
3	b. Explain hydrodynamic properties and their application in PHT.	CO3	Understand	5
	a. Analyze the working principles and operational differences between flat bed dryers and fluidized bed dryers with respect to heat and mass transfer mechanisms.	CO4	Analyze	10
	b. Explain drying theory.	CO4	Remember	5
	or			
4	a. Create a innovative design plan for an integrated on-farm grain drying and handling system that includes appropriate dryer type and conveyance method.	CO4	Create	10
	b. Describe drying and explain factors affecting drying rate.	CO4	Remember	5

Course Outcome:

At the end of the course the students will be able to-

CO1: Understand the basic concepts of protected cultivation, design and different drying methods and dryer types applicable for various crops

CO2: Perform research investigations under greenhouse and interact with the farmers to give knowledge about the protected cultivation.

CO3: Acquire skill in addressing problems in post-harvest engineering and selection of equipments for various unit operations.

CO4: Interpret and compare different drying methods and dryer types applicable for various crops and also perform post-harvest processing techniques of various crops