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Enrollment No.....



Faculty of Agriculture
End Sem Examination May-2024
AG3EL09 Hi- tech Horticulture

Programme: B.Sc. (Hons.) Branch/Specialisation: Agriculture

Duration: 3 Hrs.

Maximum Marks: 50

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

- Q.1 i. Who is known as the father of tissue culture? **1**
(a) Lalbach (b) Haberland (c) Bonner (d) Lemarck
- ii. The growth of the plant tissues in artificial media is known as: **1**
(a) Hybridization (b) Gene expression
(c) Transgenesis (d) Tissue culture
- iii. The optimum pH for plant tissue culture medium is: **1**
(a) 5.5 (b) 7.5 (c) 8.0 (d) 8.5
- iv. Which of the following is not a plant growth hormone? **1**
(a) Polyphenols (b) Auxin
(c) Cytokinin (d) Ethylene
- v. Virus free plants are developed from: **1**
(a) Bud culture (b) Meristem culture
(c) Organ culture (d) Protoplast culture
- vi. Solidifying agent that is used in plant tissue culture media is: **1**
(a) Agar (b) EDTA
(c) Cobalt chloride (d) None of these
- vii. Land levelling is not essential for irrigation with method- **1**
(a) Furrow (b) Boarder (c) Sprinkler (d) All of these
- viii. Micro-irrigation is also called: **1**
(a) Flood-irrigation (b) Basin-irrigation
(c) Trickle-irrigation (d) Localized irrigation
- ix. Drip irrigation is evolved in: **1**
(a) India (b) France (c) U. S. A. (d) Israel
- x. Application of water-soluble fertilizer through drip irrigation system is known as: **1**
(a) Fertigation (b) Fumigation (c) Acidification (d) Drenching

[2]

- Q.2 i. Define micropropagation in brief **1**
ii. Write down modern field preparation methods. **2**
iii. Discuss about introduction and importance of nursery management. **5**
OR iv. Describe planting system with appropriate examples in detail. **5**
- Q.3 i. What do you mean by protected cultivation? **1**
ii. Enlist any three micro irrigation systems. **3**
iii. Discuss about micro irrigation and its components. **4**
OR iv. Describe protected cultivation with their methods, techniques and advantages in detail. **4**
- Q.4 i. Explain the consideration affecting the schedule of fertigation. **2**
ii. Describe high density orcharding in detail. **6**
OR iii. Discuss about precision farming and their components. **6**
- Q.5 i. Define GIS in precision agriculture. **2**
ii. Discuss about remote sensing in hi-tech horticulture. **2**
iii. Describe any four- **4**
(a) Precision agriculture (b) Hi-tech nursery
(c) Fertigation (d) Polly tunnel
(e) Micro irrigation
- OR iv. Describe introduction and importance of hi-tech horticulture. **4**
- Q.6 Attempt any two:
i. Why HDP is most successful in temperate fruits? Discuss any one important training system suitable for fruit crop. **4**
ii. Write down differences between the following: **4**
(a) Drip irrigation and sprinkler
(b) Fertigation and fumigation
(c) Basin irrigation and flood irrigation
(d) Soft wood cutting and hard wood cutting
iii. Discuss about application of precision farming in horticultural crops (fruits crops) & mechanized harvesting of produce. **4**

P.T.O.

Marking Scheme
Hi- tech Horticulture (T) - AG3EL09 (T)

Q.1	i)	b) Haberland		1
	ii)	d) Tissue culture		1
	iii)	a) 5.5		1
	iv)	a) Polyphenols		1
	v)	b) Meristem culture		1
	vi)	a) Agar		1
	vii)	d) All of the above		1
	viii)	trickle-irrigation		1
	ix)	d) Israel		1
	x)	a) Fertigation		1
Q.2	i.	Define micropropagation	1 Marks	1
	ii.	Field protection methods	2 Marks	2
	iii.	Discussed about Introduction	2 Marks	5
		Importance of Nursery management	3 Marks	
OR	iv.	Planting system with appropriate examples	5 Marks	5
Q.3	i.	Protected cultivation	1 Marks	1
	ii.	Any 3 Micro irrigation systems	3 Marks	3
	iii.	Micro irrigation	2 Marks	4
		Components.	2 Marks	
OR	iv.	Protected cultivation	1 Marks	4
		Methods	1 Marks	
		Techniques	1 Marks	
		Advantages	1 Marks	
Q.4	i.	As per explanation	2 Marks	2
	ii.	As per explanation	6 Marks	6
OR	iii.	Precision farming	2 Marks	6
		Components.	4 Marks	
Q.5	i.	Define GIS in Precision Agriculture.	2 Marks	2

	ii.	Remote sensing in hi tech horticulture	2 Marks	2
	iii.	Describe any 4		4
		a) Precision Agriculture.	4 Marks	
		b) Hi tech Nursery		
		c) Fertigation		
		d) Polly tunnel		
		e) Micro irrigation		
OR	iv.	Introduction	1 Mark	4
		Importance of Hi tech horticulture.	3 Marks	
Q.6		Attempt any two:		
	i.	Why HDP is most successful in temperate fruits?		4
			1 Mark	
		Discuss any one important training system suitable for fruit crop		
			3 Marks	
	ii.	Difference between		4
		a) Drip irrigation and sprinkler	1 Marks	
		b) Fertigation and Fumigation	1 Marks	
		c) Basin irrigation and Flood irrigation	1 Marks	
		d) Soft wood cutting and hard wood cutting	1 Marks	
	iii.	Discussed about Application of precision farming in horticultural crops (fruits crops)	2 Marks	4
		Mechanized harvesting of produce.	2 Marks	
