

Department:**Revised Syllabus of III Year Diploma Program (Part Time) (UG)**

1. Title of Program: Horticultural Practices
2. Year of Implementation: 2022-2023
3. Duration: One Year
4. Pattern: Semester
5. Medium of Instruction: English
6. Contact hours: 7 hours/week
7. Structure of Course:

Syllabus Structure (UG)

Year	Semester	Course No.	Course Code	Contact Hours	Credits (1Credit=15 H)	Total Marks	
1	I	CT I	DBT 101	30	2	75	
		CL I	DBL101	60	2	75	
	II	CT II	DBT 202	30	2	75	
		CL II	DBL202	60	2	75	
	Annual	CP I	DBP101	30	1	50	
	Total				210	9	350
2	III	CT III	DBT 303	30	2	75	
		CL III	DB L303	60	2	75	
	IV	CT IV	DBT 404	30	2	75	
		CL IV	DB L404	60	2	75	
	Annual	CP II	DBP202	30	1	50	
	Industrial and or Incubation and or Research and or Field Training				30	1	-
	Total				240	10	350
	V	CT V	DBT 505	30	2	75	
		CLV	DBL505	60	2	75	
	VI	CT VI	DBT 606	30	2	75	
		CL VI	DBL606	60	2	75	
	Annual	CP III	DBP303	60	2	100	
	Industrial and or Incubation and or Research and or Field Training				30	1	-
	Total				270	11	400
Total				720	30	1100	

Total No. of Courses: 15 (Theory: 6, Practical: 6, Project:3)

Theory and Practical: Semester, Project: Annual

CT: Course Theory, CL: Course Lab, CP: Course Project, D: Diploma, * : First Letter Name of Subject/Department

Semester V

CT V: D BT 505: Principles of Pomiculture, Olericulture.**(Contact Hrs: 30 Credits: 2)****Learning Objectives:**

Students will be able to

1. To know the scope of the horticulture.
2. To know the basics of pomiculture and olericultur

Unit I: Principles of Pomiculture

- 1.1 Definition, objectives and importance of pomiculture, National and International Status of pomiculture
- 1.2 Principles of pomiculture, basic requirements for practicing pomiculture (land, equipments, seeds, post-harvest storage) (15)

Unit II: Principles of Olericulture

(15)

- 1.1 Definition, objectives and importance of olericulture, National and International Status of olericulture
- 1.2 Principles of olericulture, basic requirements for practicing olericulture (land, equipments, seeds, post-harvest storage)

Learning Outcomes:

1. The students should be able to explain the concepts and scope of Pomiculture.

Reference Books:

1. Aldhous JR (1972) Nursery practices [R]. Forestry Commission Bulletin No. 43. London: Page Bro Ltd. Pp. 184. (Unit I)
2. Andre G (1994) Application of Botany in Horticulture. Science Publishers, USA (Unit I, II, III)
3. Arora JS (2014) Introductory Ornamental Horticulture. Kalyani Publishers, New Delhi (Unit II)
4. Augé R, Vidalie H (1995) In Vitro Culture and Its Applications in Horticulture. Science Publishers Incorporated, USA (Unit I, II, III)

CLV: D* L505: (Practical):
(Contact Hrs: 60 Credits: 02)

Learning Objectives:

Students will be able to

1. To know the basics and application of plant tissue culture.
2. To know the risks involved in horticulture industry.

List of Practical's (15)

1. Morphology and propagation of important Fruit plants
2. Planning, designing and preparation of field for pomiculture as per the plants selected.
3. Morphology and propagation of important vegetable plants.
4. Planning, designing and preparation of field for olericulture as per the plants selected.
- 5-6 Study of important pests and diseases of fruit plants and their management.
- 7-9. Study of important pests and diseases of vegetable plants and their management.
10. Propagation of any one commercial Fruit crop.
11. Propagation of any one commercial vegetable crop.
12. Techniques to improve shelf life of fruits.

Learning Outcomes:

After completion of the unit, Student is able to

1. The students should be able to explain the importance and scope of Olericulture.

Reference Books:

1. Bhojwani SS, Prabhakar N (1998) Plant Tissue Culture and Molecular Biology: Application and Prospects. Ed. PS Srivastava, Narosa, New Delhi, 171-220. (Unit II)
2. Bhojwani SS, Razdan MK (1996) Plant tissue culture: Theory and Practice. Revised edition, Elsevier, Amsterdam.
3. Duryea ML (1984) Nursery cultural practices: Impacts on seedling quality. In forest nursery manual: Production of Bareroot seedlings. Duryea ML and Thomas, DL (eds.) Martinus Nijhoff/Dr W. Junk publishers. The Hauge/Boston/Lancaster, for forest research laboratory, Oregon State University, Corvallis. (Unit II)
4. Edmond JB, Andrews FS, Senn TL (1975) Fundamentals of Horticulture. McGraw-Hill, USA (Unit II, IV)

Semester VI

CT VI: D BT 606: Plant Tissue Culture techniques and risk management in horticulture industry**(Contact Hrs: 30 Credits: 2)****Learning Objectives:**

Students will be able to

1. To know the basics and application of plant tissue culture.
2. To know the risks involved in horticulture industry.

Unit I:

1. Introduction: Concept, Need/Importance and its application. Examples of plants for which tissue culture has proved useful like banana and sugarcane.
2. 2 Basic requirements for plant tissue culture set up **(15)**

Unit II:

1. Introduction to risks and its types in horticulture industry
2. Risks due to biotic factors and their management **(15)**

Learning Outcomes:

After completion of the unit, Student is able to

1. The students should be able to explain the concepts and scope of Pomiculture.
2. The students should be able to explain the importance and scope of Olericulture.

Reference Books:

1. Heit CE (1967) Propagation from seed: 8. Fall planting of fruit and hardwood seeds. American Nurseryman 126(4):12-13, 85-90. (Unit II)
2. Kaul GL (1989) Horticulture crop in India. (Unit III)
3. 11. Prasad S (1999) AgrosDictionary of Horticulture. Agrobios, Jodhpur (Unit III)
4. 12. Rao KM (2005) Textbook of Horticulture. McMillan India Ltd, New Delhi. (Unit I, II, III, IV)

CT VI: DBL606: (Practical):

(Contact Hrs: 60 Credits: 02)

Learning Objectives:

Students will be able to

1. To know the scope of the horticulture.
2. To know the basics of pomiculture and olericulture.
3. To know the basics and application of plant tissue culture.
4. To know the risks involved in horticulture industry.

List of Practical's (15)

1. Techniques to improve shelf life of vegetables.
- 2-3. Methods of preservations of fruits and vegetables.
4. Study of model tissue culture set up.
- 5-6. Preparation of tissue culture media and inoculation of banana explant.
7. Study of local fruit and vegetable market.
8. Study of local cold storage and food processing units.
9. Study of fruit and vegetable market catering to international demands.
- 10-11. Case study and survey study of risk management strategies used in horticulture industry.

Learning Outcomes:

After completion of the unit, Student is able to

1. The students should be able to explain different techniques of plant tissue culture technology.

Reference Books:

1. Razdan, MK (1995) An Introduction to Plant Tissue Culture. Oxford and IBH publishing Co. Pvt. Ltd. New Delhi. pp 27-91.
2. Sanders TW (2006) Encyclopedic Dictionary of Horticulture. Bio Green Books, Delhi. (Unit I, II, III, IV)
3. Sheela VL (2011) Horticulture. MJP Publishers, New Delhi. (Unit III, IV)
4. Singh SP (1990) Advances in Horticulture and Forestry. Scientific Publishers, New Delhi (Unit IV)

CP III: D*P303 (Project):
(Contact Hrs. 60, Credits: 2)

Industrial and or Incubation and or and or Field Training is compulsory

BOS Sub-Committee

1. Chairman
2. Member

Expert Committee

1. Name of Academic Expert
2. Name of Industrial Expert