CLUSTER UNIVERSITY SRINAGAR

SYLLABUS (FYUP UNDER NEP 2020)

Offered By Department Of BOTANY

Semester 1st Skill Enhancement Course (SEC)

Course Title: Horticulture Technology-I

Course Code: UGBOT22S102 **Max. Marks 100**
Credits: 4 (Theory: 1, Practical: 3) **Theory External: 15; Min Marks: 06**
Contact Hrs: 105 (Theory: 15, Practical: 90) **Theory Internal (Continuous Assessment): 10 Marks, Min Marks: 04**
Practical Experimental Basis= 45 Marks, Min. Marks: 18
Practical Internal (Continuous Assessment): 30 Marks, Min. Marks: 12

Course Objectives:

- Understand the principles and techniques of Horticultural technology
- Learn basic knowledge about tools, equipment and growing structures used in orchards.
- Understand the importance of soil management and fertilization in Horticulture.
- Learn techniques for proper watering and irrigation in Horticultural settings.
- Gain knowledge of Greenhouse management for raising Horticultural crops.

Learning Outcomes

- Acquire proficiency in basic horticultural tools and equipment operation and maintenance.
- Students will understand the composition, properties and fertility of soils
- Students will learn about soil testing and soil preparation protocol.
- They will learn about preparation of fertilizer mixtures and their application methods.
- Students will learn seed testing, pre-germination treatments and seeding methods
- Students will learn about greenhouse operations including temperature and humidity control for propagation Horticultural crops.

THEORY

Unit I

Scope and Importance, Classification of Horticultural Crops, Site Selection, Soil Fertility- aspects and Preparation. Tools and implements Used for Soil Preparation, Nursery Bed formation, Pot filling and Soil mixing, Seeding (Sowing and Treatment), De- weeding, Soil Treatments and Watering.

PRACTICALS:

Unit-II

1. Preparation of Nursery Beds
2. Soil Digging and its types
3. Digging tools and implements
4. Handling of Horticultural tools
5. Soil analysis -pH, Conductivity, Bulk density, porosity.
6. Soil fertility tests

Unit-III

1. Soil Preparation protocol.
2. Seed viability tests.
3. Pre-germination treatments of seeds.
4. Preparation of fertilizer mixtures.
5. Preparation of pot mixture and pot filling and refilling
6. Different Seeding methods

Unit-IV

1. De-weeding methods -manual/mechanical and chemical methods.
2. Tools and implements of de-weeding
3. Raising of Horticultural crops under Greenhouse/ Polyhouse conditions.
4. Visit to various Horticultural nurseries.
5. Visit to Central Institute of Temperate Horticulture (CITH)

Suggested Reading:

1. Prasad and Kumar, 2014. Principles of Horticulture 2nd Edn. Agrobios (India).
2. Neeraj Pratap Singh, 2005. Basic concepts of Fruit Science 1st Edn. IBDC Publishers.
3. Gardner/ Bardford /Hooker. J.R., 1957. Fundamentals of Fruit Production. Mac Graw Hill Book Co., New York.
4. Edmond, J.B, Sen, T.L, Andrews, F.S and Halfacre R.G., 1963. Fundamentals of Horticulture. Tata Mc Graw Hill Publishing Co., New Delhi.
5. Kumar, N., 1990. Introduction to Horticulture. Rajya Lakshmi publications, Nagarcoil, Tamilnadu
6. Jitendra Singh, 2002 -Basic Horticulture. Kalyani Publishers, Hyderabad.
7. Denisen E.L.,1957. Principles of Horticulture. Macmillan Publishing Co., New York.
8. Chadha, K.L. (ICAR),2002,2001. Handbook of Horticulture. ICAR, New Delhi
9. K.V. Peter, 2009. Basics Horticulture. New India Publishing Agency
10. Kausal Kumar Misra and Rajesh Kumar, 2014. Fundamentals of Horticulture. Biotech Books. D.K.
11. Salunkhe and S.S. Kadam, 2013. A handbook of Fruit Science and Technology. CRC Press
12. S. Prasad and U. Kumar, 2010. A handbook of Fruit Production. Agrobios (India).
13. Jitendra Singh, 2011. Basic Horticulture. Kalyani Publications, New Delhi