# B. Sc. (Botany) SEMESTER-III

## PAPER-II

## (Angiosperm Anatomy and Horticulture)

**Unit-1:**

**Anatomy:**

**1. Tissue:** Definition, Characteristics of Meristematic tissue; Classification of meristem (based on origin and position).

https://youtu.be/dD0z__atWIE

https://youtu.be/HJfco-c9lt4

**2. Simple Permanent Tissue and their functions:** Parenchyma, Collenchyma, and Sclerenchyma

https://youtu.be/E1PkOuJDDkk

https://youtu.be/jH96p-7YPzA

**3. Complex Permanent Tissue and their functions:** Xylem and Phloem

https://youtu.be/1X0cEgPH7p4

https://youtu.be/nMtDbqmbCZc

https://youtu.be/svNuEh9EaLU

**4. Apical meristem of root and shoot:** Apical cell theory, Histogen theory, Tunica Corpus theory, Newman's theory

https://youtu.be/pFnrjjCHCIU

**5. Cambium:** Structure, Types and functions.

https://youtu.be/KWNCmWdM7L4

**Unit-II:**

**Primary and Secondary Growth in stem and root:**

**1. Types of vascular bundles:** Radial, Conjoint, Concentric

https://youtu.be/17mWV4g8b88

https://youtu.be/7z92_QIfNxI

**2. Normal Primary structure of root:** Dicot (Sunflower) and Monocot (Maize)

https://youtu.be/IIPPeldPxJc

**3. Normal Primary structure of stem:** Dicot (Sunflower) and Monocot (Maize)

https://youtu.be/JMtthid61js

**4. Normal secondary growth in dicot stem:** Sunflower

https://youtu.be/SiZiTeQ-nHk

https://youtu.be/UZ-tFP9iGSg

**5. Anomalous Secondary growth in**: Dicot stem (Bignonia) and Monocot stem (Dracaena)

https://youtu.be/XYbBIRpjTOc

https://youtu.be/hEUToTbbkM8

**Unit-III:**

**Periderm, growth rings, Sap-heartwood, leaf anatomy:**

**1. Growth rings:** Spring wood and winter wood

https://youtu.be/FyLp7cCxaxM

https://youtu.be/mL60LF2bxko

2. Sapwood Heart wood, Tyloses

https://youtu.be/Y4TCFtO2H98

https://youtu.be/4uPogZScsEs

3. Periderm Composition, functions and Structures associated with periderm (Lenticel, Bark, Commercial cork)

https://youtu.be/JQMV0k8MhK4

https://youtu.be/kYARqEta4xw

4. Anatomy of leaf: Dicot (Nerium) and Monocot (Maize)

https://youtu.be/84bjNn5bDj4

https://youtu.be/C2304ky3ngQ

5. Senescence and Abscission.

https://youtu.be/zI2iWS2qfSk

https://youtu.be/olCjw94YtJc

**Unit-IV:**

**Skill Development: Horticulture**

**1. Horticulture:** Definition and scope, importance of horticulture, water requirement and irrigation, nutrient management.

https://youtu.be/jK2vmx29_vM

https://youtu.be/5DRdtahH6VY

https://youtu.be/mprZr1XTf7g

2. Methods of propagation of following horticultural crops (propagation by seeds, vegetative propagation, propagation through specialized organs): Rose, Chrysanthemum, Crotons, Mango, Citrus, Guava, Lilium.

https://youtu.be/wtWOJlWtmmw

https://youtu.be/cupvfkH9eOI

https://youtu.be/ef6OFAo4Bmw

https://youtu.be/rq0kqiqHA1U

https://youtu.be/H6W6RaBhB6o

https://youtu.be/TL6Y2dIfkCk

https://youtu.be/XNeSwe6Agvk

https://youtu.be/BzAKedZgqfM

3. Technique of Bonsai preparation.

https://youtu.be/oDUmJm76J7o