



**B. Sc. (Botany) SEMESTER-III**

**Paper-I**

**(Angiosperm Systematics, Embryology and Indoor Gardening)**

**Unit-1:**

**Systemic botany:**

Origin of Angiosperms: (Benettitalean theory)

<https://youtu.be/LaAZ3ZAqdoY?si=scqGe0b7FHsJkf9b>

<https://youtu.be/GQrbbBUMS14?si=ifsDoRwfTkyG6Ysq>

Fossil angiosperms: Flower (Sahanianthus)

<https://youtu.be/ppr73KLpcs8?si=n2Tk2mK8NCcq3nqC>

Fruit (Enigmocarpon)

<https://youtu.be/DMQ-3SdypBc?si=TD4vom35vyexi5y1>

Angiosperm Taxonomy: Floras

<https://youtu.be/7qCyhObkTJQ?si=XHhxxSK6358yMXN6>

Herbarium, Keys (Intended and Bracketed)

<https://youtu.be/SWohWps1N20?si=ZdI8-T4appJUrRqC>

<https://youtu.be/EH4ZmL27Grw?si=XH2b8ovjN4j4yCD9>

Botanical Nomenclature: Principles (Rank and taxon, Principle of priority)

<https://youtu.be/A3O65Y0Twko?si=cq7BFcMUwscle8EU>

<https://youtu.be/OB1gSfbIStU?si=NYMBdf3qbcjg8Ngm>

Modern trends in taxonomy: Cytotaxonomy (Karyotype)

<https://youtu.be/pjX5XypC20A?si=KOye5iaAsKoVxKS3>

Phytochemistry (Proteins and Flavonoids)

[https://youtu.be/LCdOoZH6s8M?si=6\\_9EPTusaaFr\\_uEq](https://youtu.be/LCdOoZH6s8M?si=6_9EPTusaaFr_uEq)

[https://youtu.be/WftDWBs7o\\_w?si=AWalOOKXTU2q5LYa](https://youtu.be/WftDWBs7o_w?si=AWalOOKXTU2q5LYa)

**UNIT-II**

**Angiosperm: Classification and Families:**



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**Systems of Classification:** Bentham and hooker

[https://youtu.be/06u\\_dIoti0g?si=jRPvGR4FUTxFyITu](https://youtu.be/06u_dIoti0g?si=jRPvGR4FUTxFyITu)

; Engler and Prantl (along with merits - demerits)

<https://youtu.be/hetvSLIoyIE?si=K03Hq2rcziHdmtTO>

**Study of families:** Dicot: Malvaceae

<https://youtu.be/5KdTPW25v-c?si=JwIffQj6rFJ1ZSig>

<https://youtu.be/IhfLf3h1-oE?si=OQYhLkAqyn1RPEJL>

<https://youtu.be/26HouqBp9Bo?si=7EIXsuOAuOKwl8sV>

Brassicaceae

[https://youtu.be/\\_4RLu71yIHU?si=ztLCDJf\\_fFxxvjvJP](https://youtu.be/_4RLu71yIHU?si=ztLCDJf_fFxxvjvJP)

Papilionaceae

[https://youtu.be/KXGiPSk4eY4?si=c2Dv-Xaw55l\\_u9\\_3](https://youtu.be/KXGiPSk4eY4?si=c2Dv-Xaw55l_u9_3)

<https://youtu.be/KS4IaQQciDw?si=iYB6SB1iY9cHg6M4>

Asteraceae

[https://youtu.be/Q\\_yx-WlmcYw?si=TKgnQKP9J-VM8Odl](https://youtu.be/Q_yx-WlmcYw?si=TKgnQKP9J-VM8Odl)

<https://youtu.be/YESfYDWYuh8?si=iTMRnbOmv0pwMJUW>

Asclepiadaceae

<https://youtu.be/gN46cjAH-8Y?si=Ge5A2KzZMmPq0-zZ>

<https://youtu.be/vHys7jrdq0c?si=TrcQ7UDS-cEccELN>

**Monocot:** Poaceae

[https://youtu.be/0EN\\_dh6iOK4](https://youtu.be/0EN_dh6iOK4)

[https://youtu.be/S-Md9-3MzuM?si=\\_kI55pAaHohHdwql](https://youtu.be/S-Md9-3MzuM?si=_kI55pAaHohHdwql)

## UNIT-III

**Embryology:**

**Pollination:** Types and Significance

[https://youtu.be/aT-\\_ueLkQKw?si=s0TV-ewKyZjVyU5\\_](https://youtu.be/aT-_ueLkQKw?si=s0TV-ewKyZjVyU5_)

<https://youtu.be/ecsM14jXhFw?si=IySyWyShzqXrR6Az>

<https://youtu.be/RXuNyPDqgck?si=rZU3mJOM10x-cTuL>

**Anther:** T. S. Anther



<https://youtu.be/6PsMsnb3h-g?si=5O5L2-BNilyO2t2K>

<https://youtu.be/R-Hd2SnuBAo?si=c0U4XHeeGssfDdwp>

Microsporogenesis

<https://youtu.be/2Q0ui47kHew?si=INMnhngl51QRzcHQ>

[https://youtu.be/Vus-IgBrIV8?si=YZoaB2-6gQU\\_h8Er](https://youtu.be/Vus-IgBrIV8?si=YZoaB2-6gQU_h8Er)

Structure of pollen grain

<https://youtu.be/NB-58heBBf0?si=W0pewKAXN5xj63Fs>

Development of male gametophyte.

<https://youtu.be/2Q0ui47kHew?si=uyR6ae-igEk9Bqqp>

**Ovule:** of Types of ovule

<https://youtu.be/ttFWNV9dvcw?si=xF1ix4oFBdMWTbZU>

Structure of anatropous ovule

<https://youtu.be/u2oIIJaYI3w?si=bGxKCDs74MD3Ywwc>

Megasporogenesis

<https://youtu.be/uSO6Jbg8Vd8?si=N3SUMmCJP2JcPFIY>

<https://youtu.be/0YFqJk3ogIc?si=Y1nRcqT5bltnXsmn>

Development of female gametophyte (Polygonum type)

<https://youtu.be/Exc1zORqhcw?si=OYncTj6Xw6BsSFRH>

<https://youtu.be/f6ctdQtz6do?si=Kdgnt8B1535tAja8>

**Fertilization:** Double fertilization and triple fusion

[https://youtu.be/bUjVHUf4d1I?si=Ciz9\\_9ZNvqQQzpMB](https://youtu.be/bUjVHUf4d1I?si=Ciz9_9ZNvqQQzpMB)

Endosperm and its types

[https://youtu.be/C34GVdb6SJc?si=5\\_gEuSaE4H9nkqM](https://youtu.be/C34GVdb6SJc?si=5_gEuSaE4H9nkqM)

[https://youtu.be/3Z4mi7apgTg?si=NwMEZxGSZtnrEJ\\_8](https://youtu.be/3Z4mi7apgTg?si=NwMEZxGSZtnrEJ_8)

Structure of Dicot embryo (Onagrad)

<https://youtu.be/SUM05H4VcB4?si=cP88vXKbKfc4YoRg>

Monocot embryo

<https://youtu.be/TOdc9XLx59Y?si=KLV-QkJgWqK699jm>

**UNIT-IV: Skill Development: Landscaping and Indoor gardening**



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**Landscaping:** Definition, scope of landscaping (Landscaping at offices, industrial premises, educational institutes and parks)

<https://youtu.be/t0rbliHStY4?si=xeXANB29UtcojiUv>

<https://youtu.be/u7PoCRTWgc4?si=3YKdk-nAH5jtnEtB>

**Indoor gardening:** Brief account of places of house plants, pots and containers; Factors required for growing house plants (Temperature, light, humidity, ventilation, watering, soil, feeding, potting)

[https://youtu.be/MrOMIjBH\\_NA?si=jrlcD9A7c7-Fwckw](https://youtu.be/MrOMIjBH_NA?si=jrlcD9A7c7-Fwckw)

<https://youtu.be/N8exTg14LHM?si=UUzAN73UY1Zak5OM>

<https://youtu.be/RKpkvgsfWIo?si=DamfdzQqLFLj3rew>

[https://youtu.be/LZhnCxG5c6s?si=ExxMze7\\_yr12cx\\_f](https://youtu.be/LZhnCxG5c6s?si=ExxMze7_yr12cx_f)

**Popular house plants:** Foliage Plants: *Coleus blumei*.

<https://youtu.be/jIurql16Q5Q?si=gu9jSUDZV2V4TvUY>

<https://youtu.be/tczPzUV-fsY?si=LInlOhXr3skXBLIj>

*Begonia* sp.,

[https://youtu.be/CR4TvL1J8Ss?si=yONr\\_yZ-9EEyysH5](https://youtu.be/CR4TvL1J8Ss?si=yONr_yZ-9EEyysH5)

<https://youtu.be/mCPpm8lrnFw?si=uv64vKZWXquvq8bh>

**Ferns:** *Adiantum* sp.

<https://youtu.be/1lQs6SHrfqY?si=oIQvZ7wfuEe5FAd7>

[https://youtu.be/tVaAfaQWffM?si=5OAtUV1Y1\\_I1nyVD](https://youtu.be/tVaAfaQWffM?si=5OAtUV1Y1_I1nyVD)

*Nephrolepis* sp.,

<https://youtu.be/qeAj4rIOZTE?si=kcfLO-dq9H6XMWDp>

[https://youtu.be/t7IZkjq1ASY?si=QwQcq7N\\_X999\\_2Rm](https://youtu.be/t7IZkjq1ASY?si=QwQcq7N_X999_2Rm)

**Palms:** *Chrysalidocarpus lutescens*, Areca palm

<https://youtu.be/X0fsCXvYaxY?si=QZUoTT1zq9gUW1b7>

<https://youtu.be/dK5p87JfWv4?si=8g4dJMqwrJ6AujrV>

*Howen forsteriana*, *Kentia* palm,

[https://youtu.be/q4Du\\_wF1JK4?si=FLFr9\\_Zlm-bZeGZZ](https://youtu.be/q4Du_wF1JK4?si=FLFr9_Zlm-bZeGZZ)

<https://youtu.be/tCFty2tdayU?si=VZ1mj6lhVvmzBI7Q>

**Flowering plant:** *Anthurium* sp.

<https://youtu.be/cAF6REz9SX8?si=WpHPTWxLEWlgVpud>



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<https://youtu.be/NfWSfbr55d0?si=AP6Nwpb8Zs65uaBQ>

*Begonia* sp.

<https://youtu.be/Uzj7KEZzWig?si=09bUHeFjaA0YQT45>

<https://youtu.be/RQdWXNcXHh4?si=Ma8XY5GYUxnsvI6k>

**Orchids: *Vanda* sp,**

[https://youtu.be/zHs-lQn\\_y1w?si=Y7m1okZY6J8SKTxA](https://youtu.be/zHs-lQn_y1w?si=Y7m1okZY6J8SKTxA)

***Dendrobium* sp.**

<https://youtu.be/OVQp1LxmrTc?si=xXsH5q5dN07TrFQQ>

<https://youtu.be/nAg-qSBtS-Q?si=jc7-LsBitymAfMY1>