



B. Sc. (Botany) SEMESTER-VI

Paper-II

(Phytogeography, Utilization of Plants, Techniques and Pharmacognosy)

Unit-I: Phytogeography, Pollution, Natural resources:

- 1. Phytogeography:** Principles of phytogeography, Distribution (Wides, Endemics, Dis continuous species); Climatic regions of India, Phytogeographic regions of India (Chaterjee, 1962) (Name, Distribution area, Typical Vegetation)
<https://youtu.be/8auMsm-3wUA>
https://youtu.be/HL99b1h9_9c
https://youtu.be/eJL_jBTKWtM
<https://youtu.be/954VpVFANNU>
- 2. Environmental pollution:** Causes and Control measures of Agriculture pollution and Noise pollution
https://youtu.be/zXMmrS_PeFQ
<https://youtu.be/TCBIvT8iAL8>
- 3. Natural Resources:** Renewable and Non-renewable resources, factors for their depletion
https://youtu.be/U_F_8tp5C0s
<https://youtu.be/WeCpPsrGuMk>
- 4. Conservation strategies:** Conservation of forest and water resources.
<https://youtu.be/A2op-ANY274>
<https://youtu.be/5WyOSd1rI40>

Unit-II: Utilization of plants and Ethnobotany:

- 1. Utilization of plants:** Morphology, Utilization and important chemical constituents of the plants: Food (Wheat), Oil (Groundnut), Fibre (Cotton), Spices (Clove), Beverages (Coffee), Medicinal (*Adhatoda vassica*), and Rubber.
<https://youtu.be/YRdrPEr3-1c>
https://youtu.be/mO_F5-h5IJ4
https://youtu.be/awPjo_V2Wd4
<https://youtu.be/sbFFau2BXgA>
<https://youtu.be/J7-nVSoAReg>
<https://youtu.be/gpGurdFCGp4>
<https://youtu.be/gu7pDncjpA8>
- 2. Ethnobotany:** Definition, Brief history, branches and importance of Ethnobotany.
https://youtu.be/mHiLu7I_uoI
<https://youtu.be/s1AQI9knzwl>



3. **Plants of ethnobotanical importance:** Vegetable, Fruits, Seeds, Medicinal and Narcotics (Two plants each with reference to family, parts used and tribal areas)

Unit-III: Microscopy and Techniques

1. **Microscopy:** Principle, types and application of microscope (Light, Fluorescent, SRM and TEM).
https://youtu.be/y_EhE5SFTqc
<https://youtu.be/1L8L4b10D7I>
https://youtu.be/TM_e3U48Kq0
https://youtu.be/0DsHIFNU_uw
<https://youtu.be/DBiEc8KM1e0>
<https://youtu.be/qsrwp3K8AI>
2. **Techniques:** Principle, types and application of Centrifugation, Electrophoresis (SDS PAGE and Agarose), Spectroscopy (UV-Vis), Chromatography (Paper and Thin layer Chromatography (TLC))
https://youtu.be/ujm_5GoI8jA
<https://youtu.be/vepxeDep6fk>
<https://youtu.be/F37DrC8mutU>
https://youtu.be/CDjgfW_BtXo?list=PLLf6O8XdGj03ktP4MHmIV87pHZHBEUF6f
<https://youtu.be/MW4PwJxxyt0>
<https://youtu.be/Fp34p1YFMBw>
https://youtu.be/v_poBFijv1E

Unit-IV: Skill development: Pharmacognosy:

1. **Pharmacognosy:** Definition and scope, Drug adulteration: Types; methods of drug evaluation: Biological testing of herbal drugs, phytochemical screening tests for secondary metabolites (Alkaloids and Flavonoids)
<https://youtu.be/WDcnuGCmXPu>
<https://youtu.be/RFnnJzexuHM>
<https://youtu.be/Br5hXtnT1Mk>
<https://youtu.be/-VNxHsq3E9U>
2. **Pharmacological plants:** Biological source, staining, diagnosis, micro-chemical tests, chemical constituents, preparation and uses of drug extracted from the plants: Datura leaf, Vinca rosea, Plantago ovata (Isapgol) seeds, Linum usitatissimum (Linseed) seeds, Elettaria cardamomum fruit, Coriandrum sativum fruit, Eugenia caryophyllus (Clove) flower-bud, Rauwolfia serpentina root, Zingiber officinale (Ginger) rhizome.
<https://youtu.be/LzszC1f7wKQ>
https://youtu.be/H5BzWTz_uDQ
<https://youtu.be/4ZodwZqY-Y8>
<https://youtu.be/MSVnWsaRLtU>



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https://youtu.be/g0Mx_A7ZWGM

<https://youtu.be/HgySNVF7Jlk>

<https://youtu.be/J7-nVSoAReg>

<https://youtu.be/82si4Wtwevs>

<https://youtu.be/J9z8MoJPMyk>

<https://youtu.be/-DFPASAhvVU>