

B.Sc. BOTANY
II Year: Semester-III
Paper – III: Plant Anatomy and Embryology

DSC - 1C

Credits- 1

Practical syllabus

(45 hours)

1. Demonstration of double staining technique.
2. Tissue organization in root and shoot apices using permanent slides
3. Preparation of double stained Permanent slides
Primary structure: Root - *Cicer, Canna*; Stem – *Tridax, Sorghum*
Secondary structure: Root – *Tridax* sp.; Stem – *Pongamia*
Anomalous secondary structure: Examples as given in theory syllabus.
4. Anatomy of Xerophyte (*Nerium* leaf); Hydrophyte (*Hydrilla* stem).
5. Stomatal types using epidermal peels.
6. Structure of anther and microsporogenesis using permanent slides.
7. Structure of pollen grains using whole mounts - *Hibiscus, Acacia* and Grass).
8. Pollen viability test using Evans Blue – *Hibiscus*
9. Study of ovule types and developmental stages of embryo sac.
10. Structure of endosperm (nuclear and cellular); Developmental stages of dicot and monocot embryos using permanent slides.

Practical Model Paper

Time: 3 hrs

Max. marks: 50

1. Identify the given material "A", Prepare a double stained permanent mount of transverse section of given the given material. 15M
2. Prepare a temporary mount of epidermal peel of the given leaf material " B " and identify the stomatal type . 7M
3. Conduct the pollen viability test "C" (OR) Isolate the embryo from the given material . 6M
4. Identify and describe the specimens / slides with well labeled diagrams
(a) Embryology – D (b) Palynology – E (c) Anatomy – F 3 X 4 = 12M
5. Record 5M
6. Viva 5M

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b. Kishore

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