

COURSE-II: ANATOMY, EMBRYOLOGY AND ELEMENTARY MORPHOGENESIS (BSCBO-202)

UNIT SCHEDULE

BLOCK-1- GENERAL ANATOMY

Unit-1-Tools and Techniques in Plant Anatomy

Unit-2-Types of Tissues and Anatomy of Root, Shoot and Leaf: Types of tissues (Meristematic, permanent and specialised tissue), A brief account of root, shoot and leaf anatomy

Unit-3-Structure of Vascular tissues: Structure of xylem and phloem, Origin, structure and function of vascular cambium and its normal activity, Cork cambium, its activity and products

Unit-4-Normal and Anomalous growth: With special reference to the taxa: *Bougainvillea*, *Nyctanthes*, *Dracaena*, *Ficus*, *Tinospora* and Orchids

BLOCK-2- EMBRYOLOGY

Unit-5- Male gametophytes- Structure of anther, microsporogenesis and development of male gametophytes in angiosperms

Unit-6- Female gametophytes: Structure of ovule, megasporogenesis and development of the female gametophytes with particular reference to polygonum type, comparison with Biosporic and Tetrasporic types

Unit-7- Fertilization and Post fertilization: Apomixes, Adventives embryony, Polyembryony and Parthenocarpy

BLOCK-3- MORPHOGENESIS

Unit-8- Plant Morphogenesis and Morphogenetic factors: Basic idea Morphogenesis and Concept of Differentiation, Polarity, Totipotency

Unit-9- Plant growth regulators: Auxins, Gibberellins, Cytokinins and Abscissic acid

Unit-10- Physiology of flowering: Basic concept of flowering, Photoperiodism and Vernalization