

BSC (BIOTECH) (SEMESTER-I)
BOTANY A- BT2 (THEORY)

Time: 3 Hrs.

Max. Marks:

40

Month	Syllabus
July	Unit I: <ul style="list-style-type: none"> • Apical Meristem: Tunica corpus and Histogen theories, reproductive apex and development of flower. • Secondary growth in stem and root of <i>Helianthus</i>.
August	Unit I: <ul style="list-style-type: none"> • Study of anomalous structure in <i>Boerhaavia</i>, <i>Nyctanthes</i>, <i>Mirabilis</i> and <i>Dracena</i> Unit II: <ul style="list-style-type: none"> • Structure and development of anther and male gametophyte • Structure and development of ovule and female gametophyte
September	Unit II: <ul style="list-style-type: none"> • Different types of ovules and embryo sacs • Palynology: Pollen morphology and its role in taxonomy and human welfare. Unit III: <ul style="list-style-type: none"> • Pollination and fertilization; structure, development and function of endosperm and embryo (dicot and monocot)
October	Unit III: <ul style="list-style-type: none"> • Polyembryony, Self-pollination, cross -pollination, male sterility, self incompatibility Unit IV: <ul style="list-style-type: none"> • Angiosperms, Gymnosperms, Bryophytes and Lichens- their general characteristics.
November	Unit IV: Terminology pertaining to floral description, taxonomic importance of floral parts
December	Exam

BSC (BIOTECH) (SEMESTER-II)
BOTANY B- BT2 (THEORY)

Time: 3 Hrs.

Max. Marks:

40

Month	Syllabus
January	<p>Unit I:</p> <ul style="list-style-type: none"> Systems of classification: Artificial, Natural and Phylogenetic; Salient features of Bentham & Hooker's, Hutchinson and Engler & Prantl's system of classification, (Details of Bentham & Hooker's system only).
February	<p>Unit II:</p> <ul style="list-style-type: none"> General characteristics (excluding economic importance) of following families of angiosperms; giving examples of few important genera: Ranunculaceae, Cruciferae, Rutaceae <p>Unit III:</p> <ul style="list-style-type: none"> Leguminosae, Apiaceae (Umbelliferae)
March	<p>Unit III:</p> <ul style="list-style-type: none"> Asteraceae (Compositae), Solanaceae <p>Unit IV:</p> <ul style="list-style-type: none"> General characteristics (excluding economic importance) of following families of angiosperms; giving examples of few important genera: Lamiaceae (Labiatae), Liliaceae, Orchidaceae, Poaceae (Graminae)
April	<p>Unit II:</p> <ul style="list-style-type: none"> Criteria for primitive and advanced nature of families and flower. Evolutionary status of Ranunculaceae, Compositae, Orchidaceae.
May	Exam

BSC (BIOTECH) (SEMESTER-IV)
BOTANY C- BT2 (THEORY)

Time: 3 Hrs.

Max. Marks:

40

Month	Syllabus
January	<p>Unit I:</p> <ul style="list-style-type: none"> Water relations, osmosis, transpiration, water potentials, its components, physiological & molecular adaptations in plants with respect to cold-heat-drought and salt stress.
February	<p>Unit II:</p> <ul style="list-style-type: none"> Heat shock proteins, dehydrins, late embryogenesis abundant proteins, role of different osmolytes in stress tolerance <p>Unit III:</p> <ul style="list-style-type: none"> Plant Pathology & epidemiology: Definition, classification, mode of transmission & control measures of plant diseases. Disease resistance host pathogen interaction. Phytoalexins, PR proteins
March	<p>Unit IV:</p> <ul style="list-style-type: none"> A detailed account of the following plant diseases with respect to casual agents, symptoms, epidemiology, disease cycle & their control measures. Black stem rust of wheat, Loose smut of wheat, Late and early blight of potato, False smut of rice, Bacterial blight of rice
April	<p>Unit IV:</p> <ul style="list-style-type: none"> A detailed account of the following plant diseases with respect to casual agents, symptoms, epidemiology, disease cycle & their control measures. Red rot of sugarcane, TMV of potato, Yellow vein mosaic of bhindi, Bunchy top of banana, Downy mildew of bajra.
May	Exam

