Glossary

Abscission zone	A region near the base of petiole of leaf which contains abscission layer.
Absorption Spectrum	A curve obtained by plotting the amount of absorption of different wavelengths of light by a pigment is called its absorption spectrum.
Acetyl CoA	Small, water-soluble metabolite comprising an acetyl group linked to coenzyme A (CoA).
Action Spectrum	A graphic representation showing the rate of photosynthesis at different wavelengths of light is called action spectrum
Active site	Region of an enzyme molecule where the substrate binds and undergoes a catalyzed reaction.
Aeroponics	A technique of growing plants suspended over the nutrient solution in a mist chamber. Nutrient sprayed by motor driven rotor on the roots.
Agar	Jelly-like substance, derived from red algae
Akinetes	Thick walled, dormant, non motile asexual spores.
Aleurone	Outer layer of the endosperm
Allelopathy	The chemical substances released by one plant species which affect or benefit another plant
Amphicribal/ Hadrocentric	Xylem in the centre with phloem surrounding it. Example: Ferns (Polypodium)
Amphivasal / Leptocentric	Phloem in the centre with xylem surrounding it. Example: Dragon plant – Dracena and Yucca
Anabolic	It is an enzyme catalyzed reaction in a cell that involves synthesis of complex molecules from simple molecules which uses energy.
Anamorph	Asexual or imperfect state of fungi
Anisogamy	Fusion of morphologically and physiologically dissimilar gametes
Apical cell theory	Single apical cell growing into whole plant
Apogamy	Formation of sporophyte from the gametophytic tissue without the fusion of gametes.
Apospory	Development of the gametophyte from the sporophyte without the formation of spores
Axil Parenchyma	Parenchyma arranged longitudinally along the axis
Balausto	Fleshy in dehiscent fruit
Basal body	Structure at the base of cilia and flagella from which microtubules forming the axoneme radiate
Biosphere	The region of earth on which life exist
Buffer	A solution of the acid and base form of a compound that undergoes little change in pH when small quantities of strong acid or base are added.
Callose	Sieve pores are blocked by substances called callose
Carbonic acid	A weak acidic solution of carbon-di-oxide dissolved in water
Carcinogen	Any chemical or physical agent that can cause cancer when cells or organism s are exposed to it.
Catabolic	It is an enzyme catalyzed reaction in a cell that involves degradation of molecules into simple subunits which release energy.
Chelating agents	A chelate is the soluble product formed when certain atoms in an organic ligand donate electrons to the cation.
Chemotaxonomy	Classification based on the biochemical constituents of plants
Chlorosis	Breakdown of chlorophylls leads to yellowing of leaves
Clades	Group of species comprising common ancestor and its descendants
Cladistics	Methodology used to classify organisms into monophyletic group

Closed vascular bundle	Cambium absent between xylem and phloem Example: Monocot stem
Codon	Sequence of three nucleotides in DNA or mRNA that specifies a particular amino acid during protein synthesis; also called triplet
Coenocytic condition	Aseptate, multinucleate condition
Coenzyme	A non-protein molecule involved in enzyme catalyzed reactions serves as transfer of protons or electrons between various molecules
Colloidal	An evenly distributed mixture of two different particles in a system without losing its own properties.
Dalton	Unit of molecular mass approximately equal to the mass of a hydrogen atom ($1.66 \times 10-24$ g)
Deamination	The enzymatic removal of an amino group from an amino acid to form its corresponding keto acid.
Desiccation tolerance	Ability of plants which can tolerate extreme water stress without being killed.
Drought resistance	Capacity of a plant to limit and control consequences of water deficit.
EDTA	Ethylene Diamine Tetra Acetic acid, chelating agent makes iron uptake possible by forming soluble complex in an alkaline soil.
Endergonic	A chemical reaction with a positive free energy charge or ATP utilizing reactions.
Endosperm	Nutritive tissue for the embryo
Endospore	Thick walled, resting spores
Eusporangiate	Sporangium formed from a group of initials
Exergonic	A chemical reaction with a negative free energy charge or ATP producing reactions.
Extra stellar ground tissue	Tissues outside the stele
Fibre-Tracheids	Transitional form between fibre and tracheids
Fluorescence	Emission of light by a substance that has absorbed light in the form luminescence.
Fossil	The remains or impression of plant or animal of the past geological age
Gametophyte	The haploid plant body
Gelatin	An animal-based product used as a gelling agent.
Genome	Complete set of genes in an organism
Germ	Protein rich embryo
Granum	A stack of thylakoid in a stroma of chloroplast
Hadrome	Xylem-by Haberlandt
Halophytes	Plants native to saline soils and complete their life cycle
Heliophytes	Plants which are adapted to light
Heterospory	Production of spores of different sizes: megaspores and microspores
Histogenesis	Differentiate tissues from undifferentiated cells of meristem
Indeterminate growth	Plants grow throughout their life
Intrastelar ground tissue	Tissues within the stele
Isomerisation	Rearrangement of atomic groups within the same molecule without any loss or gain of atoms.
Karyogamy	Fusion of nucleus
Karyotype	Number, sizes, and shapes of the entire set of metaphase chromosomes of a eukaryotic cell.

Km	A parameter that describes the affinity of an enzyme for its substrate and equals the substrate concentration that yields the half-maximal reaction rate;
Leptome	Phloem – by Haberlandt
Leptosporangiate	Sporangium formed from a single initial
Lumen	Space inside the tracheid/vessel/fibres
Malate Shuttle mechanism	It is a biochemical system for translocating electrons produced from glycolysis across inner membrane of mitochondrion for oxidative phosphorylation.
Mass meristem	Meristem which divides in all planes
Microgreens	Young vegetable greens add flavour in culinary
Monograph	Complete account of a taxon of any rank
Monosulcate	Pollen grain with single furrow or pores
Mycobank	Online database documenting new mycological names
Necrosis	Death of tissue
Non heme iron	An iron porphyrin prosthetic group of heme proteins from plant origin
Nucleoid	Genetic material of bacterium
Nutation	The growing stems of twiner and tendrils show automatic movement
Oogamy	Fusion of morphologically and physiologically dissimilar gametes
Open vascular bundle	Cambium present between xylem and phloem Example: Dicot stem
Oxidation	Water is oxidised into Oxygen (loss of electrons)
PAR	The wavelength at which the rate of photosynthesis is more is called 'Photosynthetically Active Radiations' which falls between 400 to 700 nm.
Parthenocarphy	Fruit developed without fertilization
Pendulous	Hanging downward loosely or freely (like catkin)
Petrifaction	A process of fossil formation through infiltration of minerals over a long period
pH	A measure of the acidity or alkalinity of a solution defined as the negative logarithm of the hydrogen ion concentration in moles per liter
Phosphorescence	Phosphorescence is the delayed emission of absorbed radiations.
Photolysis	Splitting of water molecules by light which generate protons, electrons and oxygen.
Photon	Light is electromagnetic radiant energy and travels as tiny particles called photons. A discrete Physical unit of light energy.
Photoperiodism	The response of plants to the photoperiod expressed in the form of flowering.
Phylogeny	Evolution of group of organisms
Phytochrome	A photo reversible proteinaceous plant pigment in very low concentration that absorbs red and far red light which controls flowering.
Pistillode	Sterile pistil
Pitted thickening	Uniformly thick except at their pits
Plasmogamy	Fusion of cytoplasm
Pluriocular	An ovary with two or more locus
Preparatory phase	First half of glycolysis comprising five enzymatic reactions in which one molecule of glucose splitting into two molecules of glyceraldehyde 3 phosphate with consumption of two ATP molecules.
Prickles	Stiff and sharp outgrowth
Prophage	The integrated phage DNA with host DNA

Protologue	Set of information associated with the scientific name of a taxon at its first valid publication containing the entire original material regarding the taxon
Quantasome	Morphological expression of physiological photosynthetic units, located on the inner membrane of thylakoid lamellae. Act as photosynthetic unit contains 200 to 300 chlorophyll molecules.
Quantum	The energy contained in a photon is represented as quantum
Quantum requirement	The number of photons or quanta required to release one molecule of oxygen during photosynthesis
Quantum yield	The number of oxygen molecules produced per quantum of light absorbed.
Quiescent centre concept	Inactive region of root meristem
Rachilla	Central axis of a spikelet
Radial vascular bundles	Xylem and phloem present on different radii
Ray Parenchyma	Parenchyma cells arranged in radial rows
Redox reactions	Oxidation (loss of electrons) and Reduction (gain of electrons) reactions are called redox reactions.
Reduction	CO2 is reduced into Carbohydrates (gain of electrons)
Rib-meristem	Meristem which divides anticlinally in two planes
RUBISCO	Enzyme responsible for fixation of Carbon dioxide, the most abundant protein (Ribulose 1,5 bisphosphate Carboxylase Oxygenase)
Salt stress	Adverse effects of excess mineral salts on plants
Sap	It is a fluid consist of water and dissolved minerals
Slime body	A special protein (Phloem Protein) in sieve tubes
Sporophyte	Diploid plant body
Stellate hairs	Star shaped hairs
Stratification	A process of breaking the dormancy of some plants resulting from chilling requirements
Subsidiary cells	Surrounding guard cells in the leaf epidermis
Sucrose	Non-reducing disaccharide composed of glucose and fructose
Teloemorph	Sexual or perfect state of the fungi
Thallospores	Asedual spores formed due to the fragmentation of hyphae
Trichoblasts	One type of epidermal cells that is also called short cell
Trichomes	Unicellular or multicellular appendages
Triplicate	Pollen grain with three furrows or pores
Tunica-carpus theory	Two zones of apical meristem Tunica and Carpus
X-Ray crystallography	Most commonly used technique for determining the three-dimensional structure of macromolecules (particularly proteins and nucleic acids) by passing x-rays
Xylos	Wood
Zoospore	Motile, asexual spores
Zygospore	Thick walled diploid resting spores