Glossary

Alkaline soils: *These are clayey soils with high pH (>8.5), poor soil structure and a low infiltration capacity.*

Actinomycetes: *A class of bacteria that is beneficial to plants. The bacteria also form a symbiotic relationship with various plants. These also help fix nitrogen in the soil.*

Adventitious roots: *A root that arises from any point other than the radicle.*

Androecium: *The male reproductive part in a flower that consists of long-stalked filament and the top of the filament is a cluster of micro sporangia called 'anther'.*

Annuals: *Plants that complete their life cycle in one growing season or year.*

Bagasse: *Plant residue (of sugarcane or grapes) left after the product (juice) has been extracted.*

Band placement: *In this method, fertilisers are applied in bands close to the root spread.*

Biennials: *These are plants, which complete their seed-to-seed life cycle in two seasons or years.*

Bud: *A compact knob-like growth on a plant, which develops into a leaf, flower or shoot.*

Buffering capacity: *The capacity of the soil to absorb more acid and base without a significant change in its pH.*

Bulb: *A specialised underground swollen structure having a flat basal stem and is surrounded by fleshy scales, e.g., onion.*

Bulbous ornamentals: *Plants propagated through modified underground stems.*

Callus: *A growing mass of unorganised plant parenchyma cells. In living plants, callus (plural calluses or calli) cells are those that cover a plant wound.*

Cambium layer: *A delicate layer between the phloem and xylem, which produces new phloem on the outside and new xylem on the inside in stems, roots, etc.*

Climbing plant (climber): *Plants, which climb up trees and other tall objects, are climbers. Many of them are vines, whose stems twine around trees and branches.*

Clipper or grass shear: *A tool used to maintain a lawn. It is used for trimming and side-dressing of a lawn*

Coco peat: *A growing medium prepared from dried powder of coconut plant fibre.*

Calyx: *The sepals of a flower that typically forms a whorl that encloses the petals and forms a protective layer around the flower bud.*

Colloids: *A mixture, in which insoluble particles of one substance is dispersed and suspended throughout another substance.*

Contact placement: *In this method, both seeds and fertilisers are applied simultaneously at the time of sowing.*

Crowbar: *It is a steel bar, whose one end is pointed and another is spoon or chisel shaped.*

Cut flowers: *These are the flowers that are harvested with stalk, especially, for arrangement in vases, and hence, are lasting.*

Cut greens: *These are the foliage of ornamental plants that are used as fillers along with cut flowers in flower arrangements and elsewhere for increasing aesthetic value.*

Cutting: *Detached vegetative part of a plant, which on separation and planting regenerates the missing parts and develops itself into a new plant. It is an inexpensive method of propagation.*

Deciduous plants: *Trees and shrubs that seasonally shed leaves, usually, during autumn.*

Defoliation: *The removal of foliage or leaves.*

De-shooting: *The removal or cutting of shoots.*

Disbudding: *It refers to the removal of secondary or tertiary floral buds when a large flower on a plant is desired.*

Diseases: *A plant disease is defined as an abnormal growth or dysfunction in a plant. Diseases are a result of some disturbance in the normal life process of the plant. Diseases may be because of living or non-living causes.*

Earthing-up: *It is a technique in horticulture, wherein soil is piled up around the base of a plant.*

Embryo: *An important segment of a seed, which contains tissues related to the development of leaves, stem (plumule) and root (radicle), as well as, food material storage tissues.*

Etiolation: *Plants grown in partial or complete absence of light. It is characterised by long and weak stems, smaller leaves due to longer internodes and a pale yellow colour.*

Evergreen plants: *Plants that hold their foliage all the year round.*

Explant: *The transfer of living cells, tissues or organs to a nutrient medium for growth.*

Extinct: *Something that does not exist any more.*

F1 Hybrid: *An F1 Hybrid (also known as filial 1 hybrid) is the first filial generation of the offspring of distinctly different parental types.*

Fertigation: *A method in which fertiliser is added to the irrigation water using drip system.*

Fertilisation: *The joining of male and female gametes, resulting in the formation of zygote.*

Fine nozzle: *A nozzle is a narrow pipe used to control the flow of a liquid as it leaves another pipe. The liquid can be sprayed into a gas stream with the help of a nozzle, which disperses the liquid into a fine spray of drops.*

Foliage plant: *Any plant grown for its attractive leaves.*

Floriculture: *It is a branch of horticulture that deals with the cultivation, processing and marketing of ornamental plants vis-a-vis landscaping of small or large areas, and maintenance of gardens so that the surroundings may appear aesthetically pleasant.*

Fumigant: *Any volatile chemical compound used to suffocate or poison pests in plants.*

Gametes: *A mature haploid male or female germ cell, which unites with the opposite sex in sexual reproduction to form a zygote.*

Genetic diversity: *It is the total number of genetic characteristics in the genetic make-up of a species.*

Girdling: *It is the complete removal of the strip of a bark.*

Growing media: *The material in which plants grow. Growing media is designed to support plant growth and can either be a solid or liquid.*

Head back: *When the terminal portion of a branch or shoot is removed and encourages lateral growth from the remaining shoot.*

Heat shock: *It is a conserved reaction of cells and organisms to elevated temperatures (heat shock or heat stress).*

Harrowing: *It is the process of breaking-up and smoothening out the surface of the soil through an implement called harrow.*

Herbaceous: *Plants that have no woody stem above the ground.*

Herbicide: *A chemical substance that is toxic to plants and is used to destroy unwanted vegetation, especially weeds.*

Humus: *The organic component of soil formed by the decomposition of leaves and other plant material by soil microorganisms.*

In vitro: *Performing a given procedure in a controlled environment.*

Incision: *A surgical cut made in the bark of a stem.*

Indoor gardening: *Growing house plants inside a house.*

Juvenile phase: *The period from the germination of a seed to the production of flowers, i.e., reproductive maturity.*

Knapsack sprayer: *It is a sprayer carried on the back for spraying insecticides, fungicides, herbicides, fertilisers and other chemicals.*

Landscaping: *The beautification of a piece of land in order to make it more attractive.*

Lawn: *It is a green carpet for landscape.*

Loamy soil: *Soil made of sand, silt and clay particles.*

Localised placement: *When fertilisers are applied close to seeds or plants at a specific place.*

Loose flowers: *These are the flowers that are plucked from plants without stalks just below the calyx.*

Micro propagation: *Multiplication of plants in aseptic condition and artificial growth medium from very small plant parts (tissues) like meristem tip, callus embryos, anther, etc.*

Morphology: *The branch of biology that deals with the forms and structures of living organisms.*

Mouldboard plough: *A power-driven plough used for ploughing the field. It is made up of carbon steel or steel alloy whose base is of right-angle triangle.*

Mother block: *An area that is devoted to plants known to be free from diseases and are true-to-type. It is used as a source of stock for propagation.*

Mother plant: *A plant grown for the purpose of taking cuttings or offsets in order to grow more quantity of the same plant.*

Mulching: *The act of applying 5 to 10–cm thick layer of covering material on the ground surface around growing plants.*

NAA: *Abbreviated from of Naphthalene acetic acid, which is an organic compound.*

Nursery: *An area meant for multiplying and supplying plants and planting material, and by-an-large giving guidance in the growing of ornamentals and maintenance of gardens.*

Offspring: *Young ones of living organisms, brood or progeny in a general way.*

Ornamental plants: *Plants grown for decorative purposes in gardens and landscape design projects, such as house plants, cut flowers and specimen display.*

Ovary: *In botany, it is an enlarged basal portion of the pistil—the female organ of a flower. The ovary contains ovules, which develop into seeds upon fertilisation.*

Ovule: *The structure that contains female reproductive germ cells.*

Parthenocarpy: *Development of fruits without fertilisation.*

Pedogenic: *It refers to processes that occur in soil and leads to the formation of soil.*

Pedology: *It is the study of soils; pedogenesis refers to the processes involved in the formation of soils.*

Pellet placement: *The process of applying fertilisers in pellet form.*

Petiole: *The stalk that joins leaves to the stem.*

Perennials: *Plants that survive for more than two years and do not die even after producing seeds.*

Pests: *An insect or animal that attacks crops, food, livestock, etc.*

pH: *Expressing the acidity or alkalinity of a solution on a logarithmic scale, on which 7 is neutral. Lower values are more acidic and higher values more alkaline in nature.*

pH-meter: *A digital meter (pocket size) to measure acidity in moist soils. The most favourable levels are 6 and 7 for crop cultivation.*

Phloem tissues: *Tissues that conduct food prepared in the leaves to the other parts of a plant.*

Photosynthesis: *The process by which plants, containing chlorophyll, convert light into chemical energy, which can later be released to fuel plant activities.*

Pinching: *It is the removal of growing tips of the terminal portion of plants to promote bushy growth for more lateral formation.*

Ploughing: *It is the initial operation that involves breaking of hard soil surface.*

Plumule bud: *A part of a plant embryo situated above the cotyledons that consists of epicotyl and immature leaves.*

Pollination: *The process in which pollen is transferred to the female reproductive organ of a plant.*

Potting: *It refers to planting in pots containing the potting mixture.*

Pro-trays or plug-trays: *These are shallow plugs, in which the germination medium provides better aeration to the seeds sown. It is used for sowing costly hybrid seeds.*

Pruning: *The planned removal of branches, twigs, limbs, shoots or roots.*

Radicle: *The part of a plant embryo that consists of a small branch of a root called rootlet.*

Rainy season annuals: *These are grown in the rainy season and can produce flowers under high humidity and rain as compared to other annuals.*

Rake: *It is a tool used for breaking up the soil surface into a fine tilth, ready for sowing and collecting weeds.*

Re-potting: *This refers to transferring a plant after de-potting into a larger pot, containing fresh potting mixture.*

Rhizome: *A specialised stem structure, in which the main axis of the plant grows horizontally or just below the ground surface.*

Rooting: *A part a plant that develops, typically, from the radicle and grows downward into the soil, anchoring the plant and absorbing nutrients and moisture.*

Rootstock: *It is the stump of a related species, which already has an established and healthy root system, and is utilised for grafting or budding of scion.*

Scion: *A young shoot, twig or bud of a desirable plant utilised for plant propagation.*

Seed coat: *The protective outer coat of a seed, which encloses the embryo and stored food material.*

Serpentine: *It refers to the movement like that of a serpent or snake.*

Shovel: *A tool used for lifting young seedlings from nursery beds.*

Shrubs: *A woody plant smaller than a tree that has several main stems arising at or near the ground.*

Silty: *Fine sand, clay or other material carried by running water and deposited as sediment.*

Slant: *Slope or lean in a particular direction.*

Soil: *It may be defined as a dynamic natural body developed as a result of processes that take place during and after the weathering of rocks, in which plants and other forms of life can grow.*

Soil density: *It is the weight per unit volume of soil and can be expressed in particle and bulk density.*

Soil genesis: *The transformation of rocks into agricultural land is called soil formation or soil genesis.*

Soil morphology: *It deals with the form and arrangement of soil features.*

Soil solarisation: *The method of controlling soil-borne pathogens and pests by using high temperatures and capturing solar energy. This method involves heating the soil by covering it with a clear plastic sheet for 4 to 6 weeks during the summer season when the soil will receive direct sunlight the most, resulting in the killing of soil-borne pests, such as weeds, pathogens, nematodes and insects.*

Soil test: *It is a method for determining the fertility status of the soil, so that recommendations as regards to soil amendments can be made.*

Soil texture: *This refers to the size of soil particles that comprise the soil.*

Staking: *It is the practice to support plants to grow straight and save them from bending or lodging.*

Sterilisation: *The process that eliminates, removes, kills or deactivates all forms of life and other biological agents from a medium.*

Stone: *A hard shell containing nut or seed in the centre of some fruits like mango, cashewnut, etc.*

Succulents: *A plant (especially a xerophyte) having thick fleshy leaves or stems adapted to store water.*

Texture: *The feel, appearance or consistency of a surface or substance.*

Tissues: *These consist of specialised cell or aggregation of cells in an organism.*

Tissue culture: *Growing tissues in controlled conditions. It is a specialised technique of vegetative propagation.*

Top dressing: *This refers to fertilisers, such as nitrogen and micronutrients that are applied in standing crops.*

Top working: *The process employed to repair or change varieties without removing and replacing a tree. The top is cut back to several major limbs (branches).*

Totipotency: *It is the genetic potential of a plant cell to produce the entire plant.*

Training: *This refers to giving shape to a plant, conforming to a particular form commensurate to the plant's requirement at an early stage.*

Tree: *It is woody perennial plant, typically having a single stem or trunk growing to a considerable height and bearing lateral branches at some distance from the ground.*

True seeds: *Plants whose seeds will yield the same type of plant as the original plant.*

True-to-type: *Being or behaving as expected.*

Tunicated: *Having concentric layers.*

Turf grass: *These are plants forming continuous ground cover that requires mowing.*

Variations: *A change or slight difference in condition.*

Vermicompost: *It is an organic manure (bio-fertiliser) produced as vermicast by earthworms, who feed on biological waste material and plant residues.*

Weeding: *This refers to the removal of all undesirable plants growing in a field other than ones planted or sown.*

Wheelbarrow: *A tool, primarily, used to move heavy things.*

Answer Key

Unit 1: Introduction to Floriculture

A. Fill in the Blanks

1. herbaceous 2. woody 3. annuals
4. biennials 5. six 6. indoor
7. lawn 8. planting 9. fillers

B. Multiple Choice Questions

1. (d) 2. (a) 3. (a) 4. (a)

D. Match the Columns

1. (e) 2. (d) 3. (f) 4. (a) 5. (b) 6. (c)

Unit 2: Nursery Management

Session 1: Nursery and Its Importance

A. Fill in the Blanks

1. material 2. pollution-free 3. seasonal
4. dry 5. 15 cm 6. solarisation

B. Multiple Choice Questions

1. (a) 2. (c) 3. (a) 4. (c) 5. (b)

D. Match the Columns

1. (e) 2. (d) 3. (b) 4. (a) 5. (c)

Session 2: Growing Media

A. Fill in the Blanks

1. organic 2. perlite 3. lacks 4. growing

B. Multiple Choice Questions

1. (b) 2. (a) 3. (c) 4. (a)

D. Match the Columns

1. (b) 2. (a) 3. (a)

Session 3: Sowing of Seeds and Planting Material

A. Fill in the Blanks

1. nursery 2. Clay 3. de-potting
4. July–August 5. immediately 6. higher

B. Multiple Choice Questions

1. (c) 2. (a) 3. (b) 4. (c) 5. (b)

D. Match the Columns

1. (c) 2. (b) 3. (e) 4. (a) 5. (d)

Unit 3: Plant Propagation

Session 1: Plant Propagation by Cutting

A. Fill in the Blanks

1. propagation 2. asexual/vegetative propagation
3. tissue culture 4. sexual
5. seeds 6. variation
7. long 8. asexual
9. hardwood cutting

B. Multiple Choice Questions

1. (c) 2. (b) 3. (a) 4. (a)

D. Match the Columns

1. (c) 2. (d) 3. (a) 4. (b)

Session 2: Plant Propagation by Layering

A. Fill in the Blanks

1. simple 2. attached
3. aerial 4. 2.5 cm

B. Multiple Choice Questions

1. (a) 2. (a) 3. (c) 4. (d)

D. Match the Columns

1. (e) 2. (d) 3. (a) 4. (b) 5. (c)

Session 3: Plant Propagation by Grafting

A. Fill in the Blanks

1. rootstock 2. scion
3. grafting 4. approach
5. tongue

B. Multiple Choice Questions

1. (a) 2. (d) 3. (b) 4. (a)

C. Match the Columns

1. (c) 2. (d) 3. (a) 4. (b)

Session 4: Plant Propagation by Budding

A. Fill in the Blanks

1. budding 2. shield 3. bulb
4. tuber 5. flute

B. Multiple Choice Questions

1. (a) 2. (d) 3. (a) 4. (b) 5. (a)

D. Match the Columns

1. (e) 2. (d) 3. (b) 4. (a) 5. (c)

Unit 4: Garden Tools and Equipment

A. Fill in the Blanks

1. 20
2. 50–90
3. 50
4. cultivator
5. budding-cum-grafting
6. cuttings
7. hedge shear
8. trimming, side-dressing

B. Multiple Choice Questions

1. (a) 2. (d) 3. (d) 4. (b) 5. (c) 6. (b)

D. Match the Columns

1. (h) 2. (g) 3. (f) 4. (e) 5. (d) 6. (c) 7. (b) 8. (a)

Unit 5: Soil Management and Field Preparation

Session 1: Soil and Its Properties

A. Fill in the Blanks

1. 45
2. silt
3. g/cm^3
4. acidic or alkaline
5. increases

B. Multiple Choice Questions

1. (a) 2. (b) 3. (d) 4. (c) 5. (a)

D. Match the Columns

1. (d) 2. (c) 3. (b) 4. (e) 5. (a) 6. (g) 7. (f)

Session 2: Soil Reclamation or Improvement

A. Fill in the Blanks

1. aeration
2. 15–30
3. salinity
4. 500 g
5. 8.5 or more.

B. Multiple Choice Questions

1. (d) 2. (a) 3. (c) 4. (c) 5. (c)

D. Match the Columns

1. (e) 2. (d) 3. (a) 4. (b) 5. (c)

Session 3: Field Preparation and Special Practices

A. Fill in the blanks

1. harrowing
2. unwanted
3. protective
4. de-shooting
5. flower bud
6. training

B. Multiple Choice Questions

1. (d) 2. (c) 3. (c) 4. (a)

D. Match the Columns

1. (b) 2. (d) 3. (a) 4. (c)

List of Credits

Unit 2

Fig. 2.1: DAAH, PSSCIVE, Bhopal

Fig. 2.2: https://bit.ly/2Kp7kV3

Fig. 2.3: V. K. Tripathi, CSAUA&T

Fig. 2.4: https://bit.ly/2Jh17Ke

Fig. 2.5: R. K. Pathak, PSSCIVE Bhopal

Fig. 2.6: https://goo.gl/CzZs9f

Fig. 2.7: https://goo.gl/Z9mh6R

Fig. 2.8: https://bit.ly/2IQSbMw

Fig. 2.9: R. K. Pathak, PSSCIVE Bhopal

Fig. 2.10: R. K. Pathak, PSSCIVE Bhopal

Fig. 2.11: R. K. Pathak, PSSCIVE Bhopal

Fig. 2.12: V. K. Tripathi, CSAUA&T Kanpur

Fig. 2.13 V. K. Tripathi, CSAUA&T Kanpur

Unit 3

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Fig. 3.2: R. K. Pathak, PSSCIVE Bhopal

Fig. 3.3: R.K.Pathak, PSSCIVE Bhopal

Fig. 3.4: V.K. Tripathi, CSAUA&T Kanpur

Fig. 3.5: https://bit.ly/2tJJ2uD

Fig. 3.6: DAAH, PSSCIVE Bhopal

Fig. 3.7: DAAH, PSSCIVE Bhopal

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Fig. 3.14: DAAH, PSSCIVE Bhopal

Fig. 3.15: V. K. Tripathi, CSAUA&T Kanpur

Fig. 3.16: DAAH, PSSCIVE Bhopal

Fig. 3.17: DAAH, PSSCIVE Bhopal

Fig. 3.18: V. K. Tripathi, CSAUA&T Kanpur

Fig. 3.19: V. K. Tripathi, CSAUA&T Kanpur

Fig. 3.20: R. K. Pathak, PSSCIVE Bhopal

Fig. 3.21: R. K. Pathak, PSSCIVE Bhopal

Fig. 3.23: R. K. Pathak, PSSCIVE Bhopal

(a) R. K. Pathak, PSSCIVE, Bhopal

(b) https://bit.ly/2KEkxpZ

(c) https://bit.ly/2tOoJNq

(d) https://bit.ly/2MsyjfU

(e) https://bit.ly/2NiSnm7

(f) https://bit.ly/2tMhIN2

Unit 4

Fig. 4.1: R. K. Pathak, PSSCIVE Bhopal

Fig. 4.2: R. K. Pathak, PSSCIVE Bhopal

Fig. 4.4: V. K. Tripathi, CSAUA&T Kanpur

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Fig. 4.15: V. K. Tripathi, CSAUA&T Kanpur

Fig. 4.16: R. K. Pathak, PSSCIVE Bhopal

Fig. 4.19: R. K. Pathak, PSSCIVE Bhopal

Unit 5

Fig. 5.1: R. K. Pathak, PSSCIVE Bhopal

Further readings

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