I) TURFGRASS MANAGEMENT
   1) Turfgrass Plant Selection:
      a) Cool season and Warm season grass species
      b) Geographic zones of adaptation
      c) Grass plant structures
   2) Turfgrass Establishment:
      a) Types of establishment; seeding, sodding, sprigging/stolonizing and plugging
      b) Grass seed rates by species
      c) Site/Soil preparation for planting
      d) Proper watering of new plantings
      e) Mulching newly seeded areas
      f) Fertilizer reconditions for newly planted areas
   3) Proper Mowing of Established Turf:
      a) Mowing height by species
      b) Frequency of mowing
      c) Types of mowers available
      d) Mowing patterns
      e) Clipping removal and mulching
      f) Chemical mowing
   4) Water Management:
      a) Methods of irrigation
      b) How much / How often – soil type variation
      c) Understanding transpiration
      d) Identifying turfgrass wilting, stress and desiccation
   5) IPM – Integrated Pest management:
      a) Understanding an IPM program
      b) Primary components of IPM – cultural, biological, species selection and chemical
6) Weed Control in Turf:
   a) Definition of a weed
   b) Understanding the life cycles of weeds – annual, biennial and perennial
   c) Controlling weeds with proper cultural practices
   d) Controlling weeds selectively and non-selectively

7) Turfgrass Insect Management:
   a) Major body parts of insects
   b) Leaf and stem feeding insects
   c) Root feeding insects
   d) Types of insect mouthparts
   e) Beneficial insects – insect predators

8) Turfgrass Diseases:
   a) What is a turfgrass disease
   b) Understanding the disease triangle – host, pathogen and environment
   c) Types of pathogens – fungi, bacteria, virus and parasitic nematodes

9) Proper Cultural Practices:
   a) Mowing equipment, frequency of cut and blade sharpening
   b) Water management - frequency, amount and irrigation systems
   c) Aerification – Types of equipment and best practices

II) LANDSCAPE TREE MANAGEMENT

1) Landscape Tree Selection:
   a) Tree habits / shapes
   c) Growth rates of trees
   d) Expected growth size at full maturity
   e) Tree texture and color selection
   f) Sun vs Shade locations
   g) Geographic zones of adaptation

2) Transportation of Trees:
   a) Proper securing and transportation of trees
   b) Covering for foliage protection
3) Tree Planting Best Practices:
   a) Types – balled and burlapped, container, bare root
   b) Proper planting depth and width
   c) Soil modification
   d) Staking trees – to stake or not to stake
   e) Mulching

4) Water Management:
   a) Watering newly planted trees
   b) Watering established trees

5) Tree Pruning:
   a) Why should I prune trees
   b) When should pruning be completed
   c) Understanding thinning out, crossing branches, heading back
   d) Proper pruning cuts on deciduous trees

6) Tree Fertilization:
   a) Newly planted trees
   b) Established trees
   c) Types of fertilizer available – liquid injection or granular
   d) Methods of fertilization

7) Tree Insects:
   a) Types of insects and insect damage
   b) Feeding locations
   c) Insect control measures
   d) Chemical control measures – injections and spraying
   e) Cautions when treating with chemicals

8) Air Spade:
   a) What it is and how it works
   b) Features and benefits of air spading tree roots

9) Mycorrhizae Fungus:
   a) What it is
   b) How it works in an symbiotic relationship with roots
III)  LANDSCAPE SHRUB MANAGEMENT
1) Landscape Shrub Selection:
   a) Growth habits / shapes
   b) Shrub texture and color
   c) Types of shrubs and expected growth size, growth geographic zones
2) Transportation of Shrubs
   a) Best practices for shrub transportation
   b) Covering plant material
3) Shrub Planting Best Practices
   a) Types – balled and burlapped, container and bare root
   b) Proper planting depth and width
   c) Soil modification
   d) Wet soils and drainage
   e) Mulching
4) Water Management of Shrubs:
   a) Newly planted shrubs
   b) Established shrubs
5) Shrub Pruning:
   a) Pruning best practices by plant species
   b) When should shrubs be pruned
   c) Understanding – pruning, shearing, pluck pruning and thinning
   d) Pruning of flowering shrubs – when to prune, roses, narrow-leafed evergreens and hedges
6) Landscape Shrub Insects:
   a) Types of insects and insect damage
   b) Control measures available
   c) Cautions when treating with chemicals
7) Shrub Fertilization:
   a) Newly planted shrubs
   b) Established shrubs
   c) Best practices for fertilizing shrubs
   d) Methods and types of fertilizing materials
IV) FLOWERS IN THE LANDSCAPE

1) Understanding and Defining Herbaceous Plants:
   a) Life cycles – annual, biennial and perennial
   b) Seasonal changes – Cool season annuals and warm season change outs
   c) Sun and shade tolerance – temperature considerations

2) Preparing The Soil:
   a) Tilling or turning the soil to proper depth
   b) Soil pH requirements
   c) Soil amendments
   d) Understanding soil types and drainage

3) Annals:
   a) Time to plant
   b) Impact and mass plantings

4) Biennials:
   a) Time to plant
   b) Mixing with annuals and perennials

5) Perennials:
   a) Long term plantings
   b) Winter hardy bulbs
   c) Tender bulbs

6) Fertilizing:
   a) How often
   b) Types of fertilizer recommended – based on types of plants

7) Water Management:
   a) Daily watering
   b) Temperature impact on flowers and watering requirements

V) SOILS – TEXTURE AND pH IMPACT ON PLANTS

1) Soil Texture:
   a) Understand the percentages of sand, silt and clay
   b) Nutrient holding capacity of sand, silt and clay
   c) Cation exchange capacity (CEC)
2) Soil pH:
   a) Soil pH scale – acid, neutral or alkaline
   b) Understanding the impact of soil pH on growth and plant health
   c) pH requirements vary by plant species
3) Adjusting Soil pH:
   a) Raising and lowering a soil pH – materials to be applied
   b) Maximum amounts that can be effectively applied
4) Reading and Understanding soil test results

VI) FERTILIZERS
1) Types of fertilizers:
   a) Slow release and quick release – when to use each
   b) Macronutrients and Micronutrients
2) Calculating fertilizer requirements – amendments
3) What are the essential plant nutrients for good health and growth

VII) SUSTAINABLE LANDSCAPE PRACTICES
1) Understanding Sustainable Landscapes:
   a) Defining sustainable landscapes
   b) Benefits and advantages of a sustainable landscape
2) Basic Sustainable Practices Related to Sustainable Landscaping:
   a) Plant selection – using native plants
   b) Storm water run-off and containment – bio swales, rain gardens, green roofs and permeable pavers
   c) What is “gray water” and its uses in the landscape
   d) Grass re-cycling – mulching equipment
   e) Building healthy soils – soil testing and amending poor soils with compost or humus
   f) Soil moisture monitoring
   g) Precise volume irrigation – low output irrigation heads and drip irrigation
h) Understanding and using an (IPM) integrated pest management program – reducing the use of pesticides
i) Re-cycling organic material on site – composting

VIII) CONVERSIONS TABLES
1) Square (or surface) measurements:
   a) Square feet / square yards
   b) Square feet per acre
2) Calculating cubic feet:
3) Calculating cubic yards:
4) Liquid volumes and conversions:
   a) Milliliters, pints, quarts and gallons
5) Linear measurements

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