Specific Competencies and Skills Tested in this Assessment:

**General Knowledge**
- Identify horticulture-landscaping safety standards
- Define horticulture-landscaping terminology
- Describe career opportunities and professional development

**Plant and Soil Science**
- Demonstrate knowledge of plant characteristics and environmental requirements
- Identify parts of a plant and their purpose and function
- Demonstrate knowledge of plant classification and taxonomy
- Demonstrate soil pH and possible modifications
- Identify types and characteristics of soils, components, and interactions
- Identify plant nutrient requirements
- Identify and describe types of fertilizers

**Pest Management**
- Demonstrate knowledge of personal and environmental pest management safety
- Identify and characterize insects, weeds, and diseases
- Demonstrate methods of Integrated Pest Management (IPM)

**Fundamentals of Irrigation**
- Describe characteristics of irrigation systems
- Describe irrigation system components
- Identify types of watering techniques

**Basic Nursery and Greenhouse Skills**
- Describe methods of propagation
- Explain environmental management of greenhouses
- Identify growing structures

**Horticulture Business and Retailing**
- Compute cost of product
- Analyze pricing and mark-up techniques
- Calculate materials needed
- Demonstrate marketing and sales techniques
- Maintain business records
Horticulture-Landscaping - PILOT (continued)

**Landscape Design**
Identify landscape area usage (e.g., private, public, service areas)
Determine appropriate material selection
Compute square footage, area, and volume
Describe the impact of drainage, slopes, and grades on landscapes

**Landscape Installation and Construction**
Identify tools and equipment
Read blueprints and lay out site plans
Install and construct water features
Install and construct landscape structures and hardscapes
Transplant various types of landscape plants

**Landscape and Turf Maintenance**
Inspect, operate, and maintain power equipment
Identify the various methods of turf establishment
Compare types and characteristics of grasses
Select appropriate mowing and trimming techniques
Identify golf course features and maintenance

**Arboriculture**
Identify tree growth characteristics
Describe methods of tree planting, staking, and watering
Identify tree disorders, injuries, and treatments
Explain proper pruning techniques
Written Assessment:

Administration Time: 3 hours
Number of Questions: 189

Areas Covered:

8% General Knowledge
20% Plant and Soil Science
11% Pest Management
6% Fundamentals of Irrigation
11% Basic Nursery and Greenhouse Skills
9% Horticulture Business and Retailing
8% Landscape Design
10% Landscape Installation and Construction
10% Landscape and Turf Maintenance
7% Arboriculture

Sample Questions:

Plants with stems that are soft and fleshy are described as being
A. deciduous
B. hardwoods
C. herbaceous
D. evergreen

Air-pollution damage to plants is characterized by
A. brown veins with green edges
B. chlorosis on the entire leaf
C. browning of the leaf margins
D. purple blotches near the mid-vein

A foliar disease would appear on which part of a plant?
A. roots
B. stems
C. leaves
C. flowers

Water pressure is affected by the
A. type of end caps
B. material used to make pipe
C. diameter of the pipe
D. number of welds in a pipe

Seed vigor and viability is extended by storing seeds in a _____ location.
A. cool and moist
B. warm and moist
C. warm and dry
D. cool and dry
The price of a service is the sum of
A. materials, labor, overhead, and profit
B. materials, labor, insurance, and profit
C. labor, taxes, profit, and overhead
D. labor, insurance, materials, and overhead

A tree genus that prefers a moist to wet soil is
A. Quercus
B. Cornus
C. Morus
D. Salix

Keeping a tool clean and sharp will maintain its
A. appearance
B. usefulness
C. sale price
D. marketability

The purpose of soil aeration is to
A. increase the oxygen in the soil
B. repair divots
C. reduce the amount of fertilizer
D. increase soil compaction

Pruning is a process by which
A. parts of plants are cut and removed
B. plants are placed in another location
C. fruit is removed from plants
D. fruit is thinned to encourage better growth
Performance Assessment:

Administration Time: 2 hours and 5 minutes
Number of Jobs: 5

Areas Covered:

18% Identify and Control Pests
Participant will inspect plants or photographs, accurately identify diseases and insect damage, consult reference guide and complete form.

34% Identify Equipment Features and Record Measurements
Participant will identify features on a 4-cycle engine and 2-cycle engine, and record measurements.

21% Install a Container-Grown Plant
Participant will dig a hole, prepare backfill, plant the shrub, and backfill the hole.

15% Prune a Tree and an Evergreen Shrub
Participant will mark cuts, safely use pruning shears, and saw, and make quality cuts with both.

12% Stake Out a Site Plan: Entrance Walkway
Participant will choose a measuring device and plant stakes, lay out an irrigation line, place the plant stakes, sidewalk, and front entrance.

Sample Job: Identify and Control Pests

Estimated Job Time: 20 minutes

Participant Activity: The participant will go to the designated area and inspect the host plants for pest problems, identify the plant and pest problems for each specimen, consult approved pest control recommendations or production manual for appropriate method of control, complete the chart that is provided and indicate diagnosis, method of treatment, and rate of application.