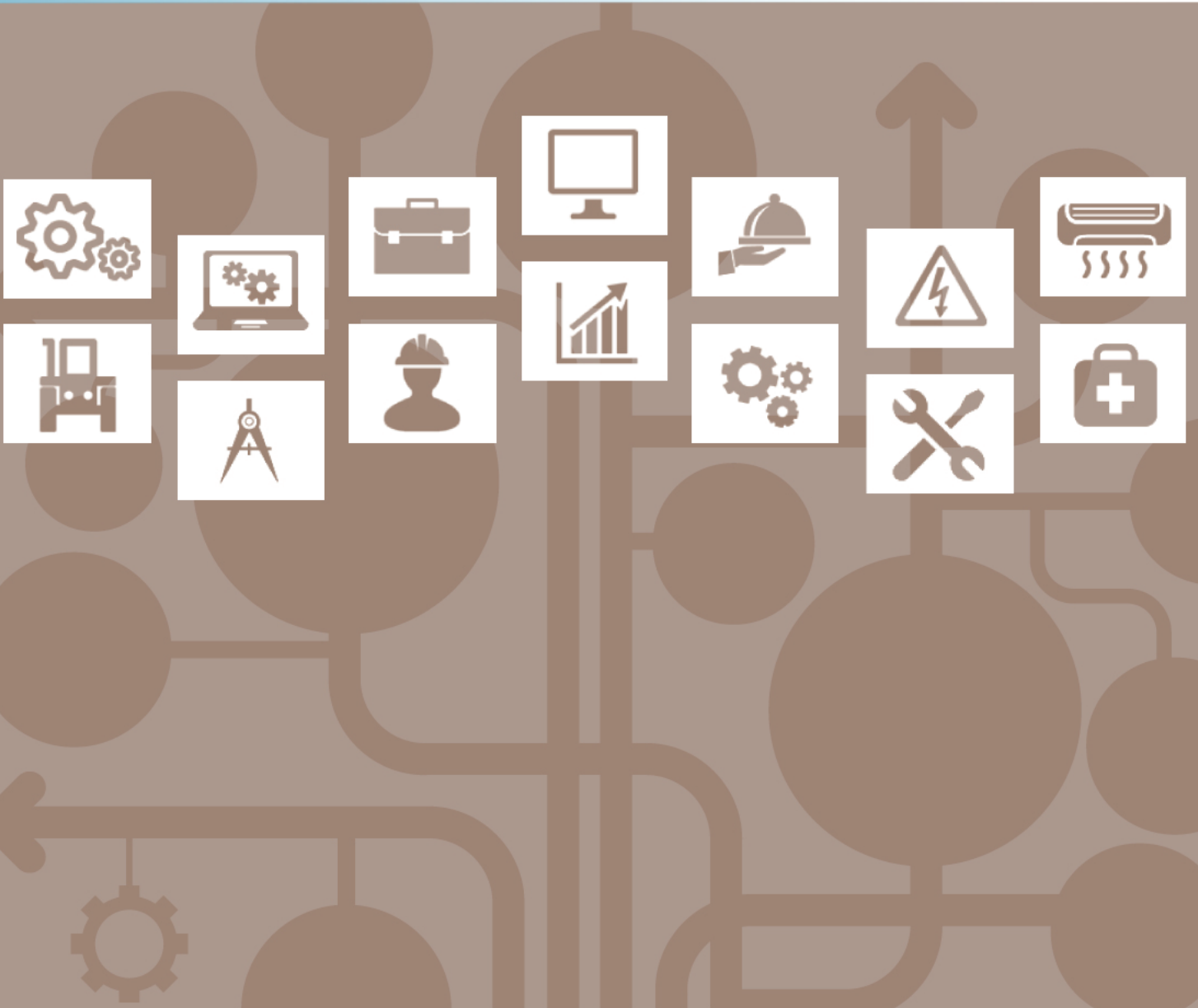


Entry Level Assessment Blueprint

Forest Products and Processing



Specific Competencies and Skills Tested in this Assessment:

Safety

- Apply knowledge of personal safety practices, including use of PPEs
- Evaluate geographic and environmental factors related to safety
- Demonstrate safe use of forestry equipment and machinery including appropriate hand signals
- Select correct fire extinguisher for fire type and demonstrate proper use
- Explain the significance of OSHA as it relates to forestry

Logging, Harvesting

- Define harvesting terminology
- Inspect and study harvest area
- Describe correct procedures for operating skidders and loaders, including proper choker setter's technique and dislodging snags
- Identify the parts of a choker
- Demonstrate proper techniques for manually felling a tree
- Determine legal load weight for over-the-road vehicles, including calculating cord volume and securing product for transport



Tree Identification

- Identify tree types using leaves, bark, and buds
- Identify species representative to geographic area

Specific Competencies and Skills continued:

Sawmill Operation

- Explain sawmill procedures, processes, and terms
- Identify various types of saws and their uses
- Scale logs, identify log scale, and explain relationship of log volume to lumber volume
- Identify wood according to species
- Size and dimension rough-cut lumber and grade dimensional lumber
- Identify lumber defects, causes, and effects
- Explain methods of drying lumber

Diesels and Hydraulics

- Identify the parts and functions of a hydraulic system
- Inspect, service, and troubleshoot hydraulic systems, including procedures for checking hydraulic leaks
- Identify engine, hydraulic, and gear oils
- Explain basic diesel engine operation, including fuel types, and troubleshooting

Chain Saws

- Identify parts of a chain saw
- Demonstrate safe transportation, use, and operation of chain saws
- Identify types of chains and explain uses
- Adjust, sharpen, and identify features of a chain saw
- Diagnose and troubleshoot chain saw problems



Specific Competencies and Skills continued:

Silviculture and Forest Management

- Define silviculture and forest management terms
- Describe the various types of forests and their potential uses
- Identify methods of timber harvesting based on forest type
- Explain stand density and stocking
- Estimate cutting ratio to determine and achieve sustained yield

Forest Ecology and Protection

- Identify environmental factors important to a forest community
- Determine tree maturity (biological and economical)
- Identify leaf diseases and their causes
- Explain how plant genetics alters tree performance
- Describe formation of forest soils
- Identify insects detrimental to forests
- Specify integrated pest management strategies
- Explain causes of deformed trees
- Identify firefighting tools and explain principles of forest fire management



Surveying

- Define surveying terminology
- Use maps, GPS, and GIS to locate boundaries and topographical information
- Identify methods of calculating elevation and slope
- Identify and use measuring devices
- Calculate acreage using common forest/surveying measuring techniques

Specific Competencies and Skills continued:

Timber Cruising

- Select and use correct timber measuring tools
- Define common forest measurement units
- Calculate basal area
- Determine board feet
- Apply techniques of timber cruising to determine stand volume
- Apply techniques of log scaling to determine log volume

Wildlife

- Identify types of wildlife commonly found in forest habitats
- Explain animal and human interaction and the impact on forest habitats
- Identify seasonal food sources
- Determine population density based on scientific data



Business Management and Employability Skills

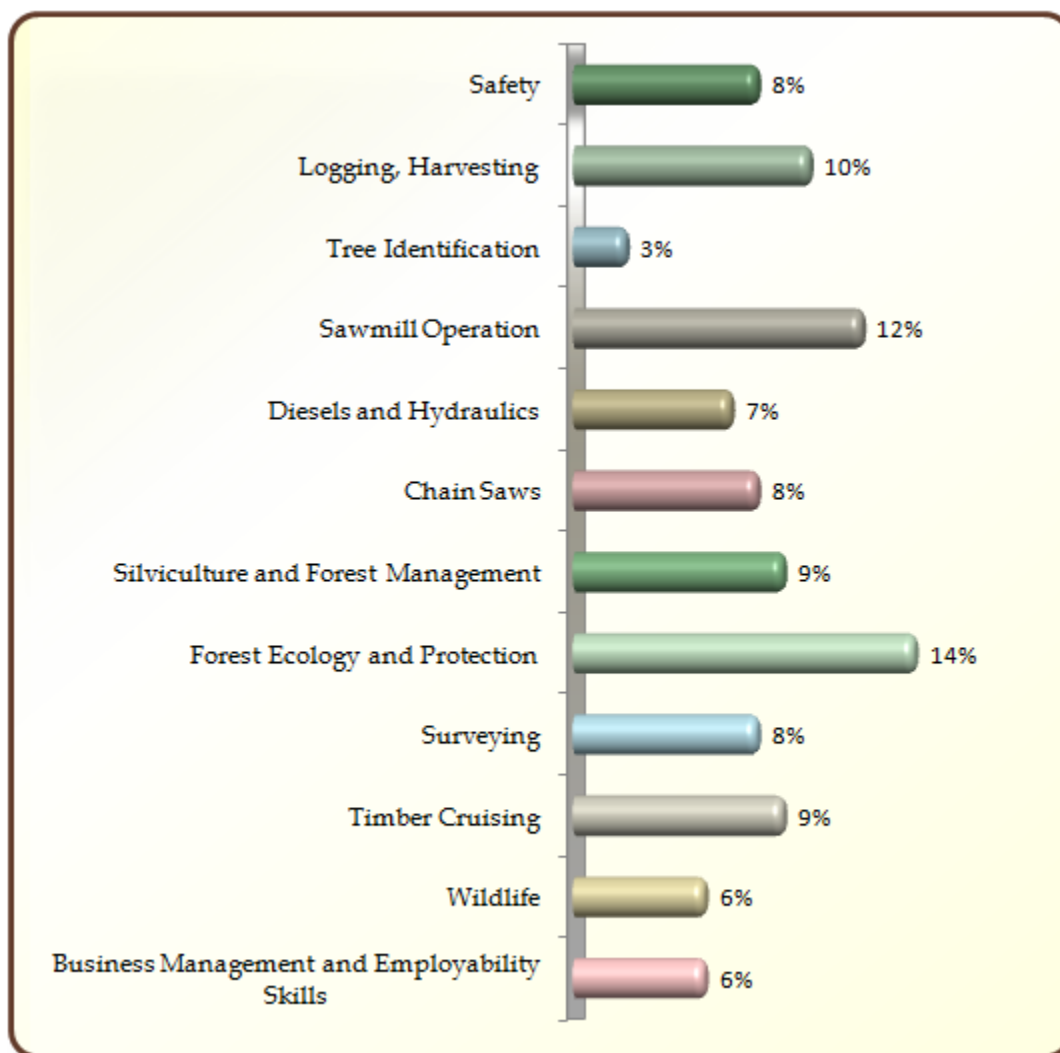
- Define business terms used to successfully operate a forest enterprise
- Explain characteristics of different types of business ownership
- Identify strategies, practices, and issues involved in successful forest enterprises

Written Assessment:

Administration Time: 3 hours

Number of Questions: 189

Areas Covered:



Sample Questions:

Trees that produce cones are called

- A. broadleaf
- B. deciduous
- C. conifers
- D. hardwoods

After processing, hardwood lumber should be

- A. stickered
- B. bundled
- C. covered
- D. waxed

To safely start a chain saw, the saw should be

- A. on the ground
- B. on the tailgate of the truck
- C. drop-started
- D. on the log

The demand by forest trees for more growing space is called

- A. survival
- B. variation
- C. diversity
- D. competition

In forestry, a common unit of linear measurement is the chain which is equal to

- A. 33 feet
- B. 66 feet
- C. 100 feet
- D. 120 feet

Performance Assessment:

Administration Time: 2 hours and 50 minutes

Number of Jobs: 7

Areas Covered:

15% **Manually Fell a Tree**

Prepare the site, use proper felling and safety procedures, and time to complete job 1.

11% **Identify Leaf, Bud, and Bark Specimens**

Identify different types of leaves, buds and bark, identify various specimens of each, and time to complete job 2.

11% **Grade Hardwood or Pine Lumber**

Identify boards by common name, grade the boards, and time to complete job 3.

11% **Scale Hardwood or Pine Logs**

Identify logs by common name, calculate volume in board feet, and time to complete job 4.

12% **Sharpen and Adjust Chain Saw**

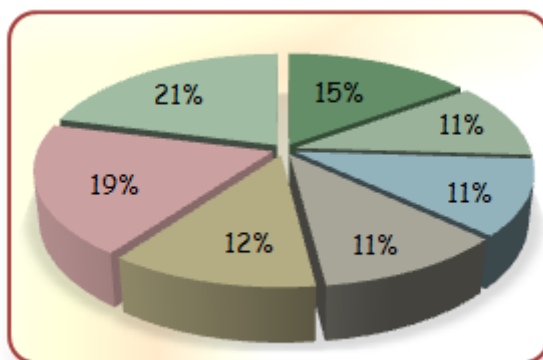
Sharpen and adjust chain saw, safety, and time to complete job 5.

19% **Calculate Acreage**

Locate bearings, pace perimeter, plot acreage on paper, compute acreage, and time to complete job 6.

21% **Plot and Analyze 1/5 Acre**

Calculate saw logs, demonstrate conversion process, identify trees, record correct volume on a per acre basis, and time to complete job 7.



Sample Job: Identify Leaf , Bud, and Bark Specimens

Maximum Time: 20 minutes

Participant Activity: The participant will identify the common names of 30 leaf, bud and/or bark specimens.

