

NAME: _____

Answer as concisely as possible. Grading is on a 100 point scale with 105 total points possible.

1. Define the following (*1 point each, 5 points total*).

Dendrology:

Tree:

Habit:

Liana:

Silvics:

2. Name two unique evolutionary challenges trees must overcome that are not faced by most other life-forms such as animals (*1 point each, 2 points total*).

3. Identify the BEST online resource you could use to obtain the following information. Give the name of the website (*1 point each, 4 points total*).

Identifying an unknown tree planted behind your house:

Finding out if two taxonomic names describe the same plant:





Determining the amount of seed per acre produced by a pine species:

Checking to see how large the biggest sweetgum in Texas is:

Points: _____

4. Draw and label a diagram of an angiosperm twig, identifying as many features as possible. It does not matter if your drawing skills are poor, as long as the interpretation of your drawing is apparent (10 points total).

5. Fill in the table below identifying the relevant descriptive term for different aspects of leaf morphology (1 point each, 12 points total).

				
Leaf Shape				
Apex				
Base				

Points: _____

6. Define the following (*1 point each, 4 points total*).

Monoecious:

Dioecious:

Imperfect:

Complete:

7. Give all possible combinations of perfect/imperfect and complete/incomplete flowers that can be found on a monoecious tree (*1 point each, 3 points total*).

8. What are the two primary mechanisms by which pollen is distributed (*1 point each, 2 points total*)?

9. Define pollination (*1 point*).

10. Do trees commonly self-pollinate? Explain why or why not (*1 point each, 2 points total*).

11. Define the following (1 point each, 5 points total).

Radical:

Epicotyl:

Hypogeal:

Cotyledon:

Seed:

12. Identify three categories we use to classify simple fruits, give two examples of fruit types found in each, and one example of a species that has that type of fruit (1 point each, 15 points total).

Here's an example for you using compound fruits.

Category	Fruit Type	Example Species
<i>Compound</i>	<i>Aggregate</i>	<i>Common buttonbush</i>
	<i>Multiple</i>	<i>sweetgum</i>

Category	Fruit Type	Example Species

- 13.** Draw and label a diagram of a pine cone, identifying as many features as you can (*5 points*).
- 14.** Define serotinous (*1 point*).
- 15.** From a taxonomic perspective, distinguish the term SPECIES from SPECIFIC EPITHET (*1 point*).
- 16.** Name one plant order (hint: ends in –ales) that fits each of the following descriptions (1 point each, 5 points total).
- Monotypic gymnosperm order:
- Primitive angiosperm order:
- Magnoliid clade order that is NOT the Magnoliales:
- Monocot order with woody plants:
- Dicot order with woody plants:
- 17.** Contrast the red oak group with the white oak group, describing 4 key differences (*1 point each, 4 points total*).

18. Translate the following words used in plant taxonomic names into English (*1 point each, 10 points total*).

grandis:

alba:

tomentosa:

quadrifolia:

clausa:

macrocarpa:

pubescens:

montana:

grandiflora:

saccharum:

19. Name two types of dichotomous keys that are commonly used (*1 point each, 2 points total*).

Points: _____

20. Use the below dichotomous key to demonstrate how you would identify a loblolly pine specimen. **Circle** your choices at each step on the far right, and circle the correct species (4 points total).

- 1. Needle-like or scale-like leaves.....2
- 1. Broad leaves.....6
 - 2. Needles awn-like or on deciduous branchlets.....3
 - 2. Needles in fascicles.....4
- 3. Needles awn-like, cones < 1 cm in diameter and bluish when mature.....species A
- 3. Needles on deciduous branchlets, cones > 1 cm in diameter and brown when mature.....species B
 - 4. Needles in fascicles of 2 or 3, < 12 cm longspecies C
 - 4. Needles in fascicles of 3, occasionally 4, > 12 cm long.....5
- 5. Cones < 15 cm long, buds brownish.....species D
- 5. Cones > 15 cm long, buds silver-grey.....species E
 - 6. Leaf arrangement opposite or whorled.....7
 - 6. Leaf arrangement alternate.....11
- 7. Leaves compound.....8
- 7. Leaves simple.....10
 - 8. Vine.....species F
 - 8. Tree.....9
- 9. Leaf scar curves around lateral buds.....species G
- 9. Leaf scar circular and below lateral buds.....species H
 - 10. Terminal bud rounded, leaves 3-lobed, fruit matures in spring.....species I
 - 10. Terminal bud pointed, leaves usually 5-lobed, fruit matures in summer.....species J
- 11. Leaves compound.....12
- 11. Leaves simple.....13
 - 12. Typically 5 leaflets, terminal buds elongated.....species K
 - 12. Typically 7 leaflets, terminal buds squat.....species L
- 13. Leaves lobed.....species M
- 13. Leaves unlobed.....species N

21. Use the below dichotomous key to demonstrate how you would identify a white oak specimen. **Circle** your choices at each step on the far right, and circle the correct species (4 points total).

- 1. Needle-like or scale-like leaves.....2
- 1. Broad leaves.....6
 - 2. Needles awn-like or on deciduous branchlets.....3
 - 2. Needles in fascicles.....4
- 3. Needles awn-like, cones < 1 cm in diameter and bluish when mature.....species A
- 3. Needles on deciduous branchlets, cones > 1 cm in diameter and brown when mature.....species B
 - 4. Needles in fascicles of 2 or 3, < 12 cm longspecies C
 - 4. Needles in fascicles of 3, occasionally 4, > 12 cm long.....5
- 5. Cones < 15 cm long, buds brownish.....species D
- 5. Cones > 15 cm long, buds silver-grey.....species E
 - 6. Leaf arrangement opposite or whorled.....7
 - 6. Leaf arrangement alternate.....11
- 7. Leaves compound.....8
- 7. Leaves simple.....10

Points: _____

- 8. Vine.....species F
- 8. Tree.....9
- 9. Leaf scar curves around lateral buds.....species G
- 9. Leaf scar circular and below lateral buds.....species H
 - 10. Terminal bud rounded, leaves 3-lobed, fruit matures in spring.....species I
 - 10. Terminal bud pointed, leaves usually 5-lobed, fruit matures in summer.....species J
- 11. Leaves compound.....12
- 11. Leaves simple.....13
 - 12. Typically 5 leaflets, terminal buds elongated.....species K
 - 12. Typically 7 leaflets, terminal buds squat.....species L
- 13. Leaves lobed.....species M
- 13. Leaves unlobed.....species N

22. Use the below dichotomous key to demonstrate how you would identify a red maple specimen. **Circle** your choices at each step on the far right, and circle the correct species (4 points total).

- 1. Needle-like or scale-like leaves.....2
- 1. Broad leaves.....6
 - 2. Needles awn-like or on deciduous branchlets.....3
 - 2. Needles in fascicles.....4
- 3. Needles awn-like, cones < 1 cm in diameter and bluish when mature.....species A
- 3. Needles on deciduous branchlets, cones > 1 cm in diameter and brown when mature.....species B
 - 4. Needles in fascicles of 2 or 3, < 12 cm longspecies C
 - 4. Needles in fascicles of 3, occasionally 4, > 12 cm long.....5
- 5. Cones < 15 cm long, buds brownish.....species D
- 5. Cones > 15 cm long, buds silver-grey.....species E
 - 6. Leaf arrangement opposite or whorled.....7
 - 6. Leaf arrangement alternate.....11
- 7. Leaves compound.....8
- 7. Leaves simple.....10
 - 8. Vine.....species F
 - 8. Tree.....9
- 9. Leaf scar curves around lateral buds.....species G
- 9. Leaf scar circular and below lateral buds.....species H
 - 10. Terminal bud rounded, leaves 3-lobed, fruit matures in spring.....species I
 - 10. Terminal bud pointed, leaves usually 5-lobed, fruit matures in summer.....species J
- 11. Leaves compound.....12
- 11. Leaves simple.....13
 - 12. Typically 5 leaflets, terminal buds elongated.....species K
 - 12. Typically 7 leaflets, terminal buds squat.....species L
- 13. Leaves lobed.....species M
- 13. Leaves unlobed.....species N

Points: _____