

NAME: _____

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

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

alata:

flexilis:

monophylla:

incana:

biflora:

cordifolia:

grandidentata:

velutina:

concolor:

palustris:

2. *Define the following terms. (2 points each, 8 points total)*

Dendrology:

Tree:

Habit:

Silvics:

Points: _____

3. Draw a TWIG and label at least 9 different parts, using correct terminology. Only TWIG features will earn you any credit. (1 point each, 9 points total)

4. List each type of **DRY DEHISCENT** fruit, and give one example of a tree with that type of fruit. (1 point each, 6 points total).

5. List the **best** online resource we discussed in class that you would use for each of the following scenarios. (1 point each, 3 points total)

Determining if a specific epithet you read in an older textbook has been changed to the name you learned in lab for a tree.

Identifying an unknown specimen you found while vacationing in Georgia.

Writing a technical report for your ecology class on western larch.

Points: _____

6. Draw a leaf or portion thereof that illustrates each of the following terms related to leaf morphology. Identify the part of the leaf to which the term applies. (2 points each, 10 points total)

DELTATE

Part of Leaf:

ACUMINATE

Part of Leaf:

AURICULATE

Part of Leaf:

CRENATE

Part of Leaf:

CLEFT

Part of Leaf:

Points: _____

7. Define or draw the following terms related to cones. (2 points each, 8 points total)

Umbo:

Apophysis:

Scale:

Serotinous:

8. Distinguish each of the following pairs (2 points each, 6 points total)

Soft versus hard pines:

White versus red oaks:

True versus pecan hickories:

9. From a taxonomic perspective, distinguish the term SPECIES from SPECIFIC EPITHET. (2 points)

10. Define and contrast the following acronyms. (1 point each, 3 points total)

spp.

sp.

ssp.

Points: _____

- 11.** Name two types of *dichotomous* keys that are commonly used. (1 point each, 2 points total)
- 12.** We discussed numerous sources of variation in forest trees. Name, explain, and give one example of three specific causes of variation, other than genetics, the environment, or $G \times E$ interactions. Hint: the names were on the bottom of each slide. (3 points each, 9 points total)
- 13.** The next two questions feature the same taxonomic key. There are a number of design mistakes intentionally included in this key. Identify those mistakes based on what we discussed in class. Hint: the mistakes are in the design of the key, not in the group of species it was created for or that it only identifies each plant as 'Species A'. (1 point each, 5 points total)

14. Use the below dichotomous key to demonstrate how you would identify a black walnut specimen.

Circle your choices at each step on the far right, and circle the correct species. (8 points total)

- 1. Species has broadleaf type leaves.....2
- 1. Species has needles or scale-like leaves.....3
 - 2. Species has compound leaves.....4
 - 2. Species has simple leaves.....5
- 3. Species has scale-like leaves.....6
- 3. Species has needle-like leaves.....7
 - 4. Species has palmately compound leaves.....8
 - 4. Species has pinnately compound leaves.....9
- 5. Species has opposite leaf arrangement.....10
- 5. Species has alternate leaf arrangement.....11
 - 6. Species has woody cones.....12
 - 6. Species has leathery cones.....13
- 7. Species has 2 or 3 needles per fascicle.....14
- 7. Species has 5 needles per fascicle.....15
 - 8. Species has square, red to orange terminal buds..... Species A
 - 8. Species is a woody climbing vine.....Species B
- 9. Species is odd pinnately compound.....Species C
- 9. Species is even pinnately compound.....Species D
 - 10. Species has pointed brown terminal buds.....Species E
 - 10. Species has stout twigs.....Species F
- 11. Species has cordate leaf shape.....Species G
- 11. Species has palmately lobed leaf.....Species H
 - 12. Species has evergreen foliage.....Species I
 - 12. Species has deciduous foliage.....Species J
- 13. Cones < 1 cm in diameter.....Species K
- 13. Cones > 1 cm in diameter.....Species L
 - 14. Species has large, fuzzy white terminal buds.....Species M
 - 14. Species has small, brown terminal buds.....Species N
- 15. Species has uninodal branching.....Species O
- 15. Species does not have uninodal branching.....Species P

15. Use the below dichotomous key to demonstrate how you would identify an eastern redbud specimen.

Circle your choices at each step on the far right, and circle the correct species. (8 points total)

- 1. Species has broadleaf type leaves.....2
- 1. Species has needles or scale-like leaves.....3
 - 2. Species has compound leaves.....4
 - 2. Species has simple leaves.....5
- 3. Species has scale-like leaves.....6
- 3. Species has needle-like leaves.....7
 - 4. Species has palmately compound leaves.....8
 - 4. Species has pinnately compound leaves.....9
- 5. Species has opposite leaf arrangement.....10
- 5. Species has alternate leaf arrangement.....11

Points: _____

- 6. Species has woody cones.....12
- 6. Species has leathery cones.....13
- 7. Species has 2 or 3 needles per fascicle.....14
- 7. Species has 5 needles per fascicle.....15
 - 8. Species has square, red to orange terminal buds..... Species A
 - 8. Species is a woody climbing vine.....Species B
- 9. Species is odd pinnately compound.....Species C
- 9. Species is even pinnately compound.....Species D
 - 10. Species has pointed brown terminal buds.....Species E
 - 10. Species has stout twigs.....Species F
- 11. Species has cordate leaf shape.....Species G
- 11. Species has palmately lobed leaf.....Species H
 - 12. Species has evergreen foliage.....Species I
 - 12. Species has deciduous foliage.....Species J
- 13. Cones < 1 cm in diameter.....Species K
- 13. Cones > 1 cm in diameter.....Species L
 - 14. Species has large, fuzzy white terminal buds.....Species M
 - 14. Species has small, brown terminal buds.....Species N
- 15. Species has uninodal branching.....Species O
- 15. Species does not have uninodal branching.....Species P

16. Create a key for the following species. (8 points)

green ash

bald cypress

Shumard oak

live oak

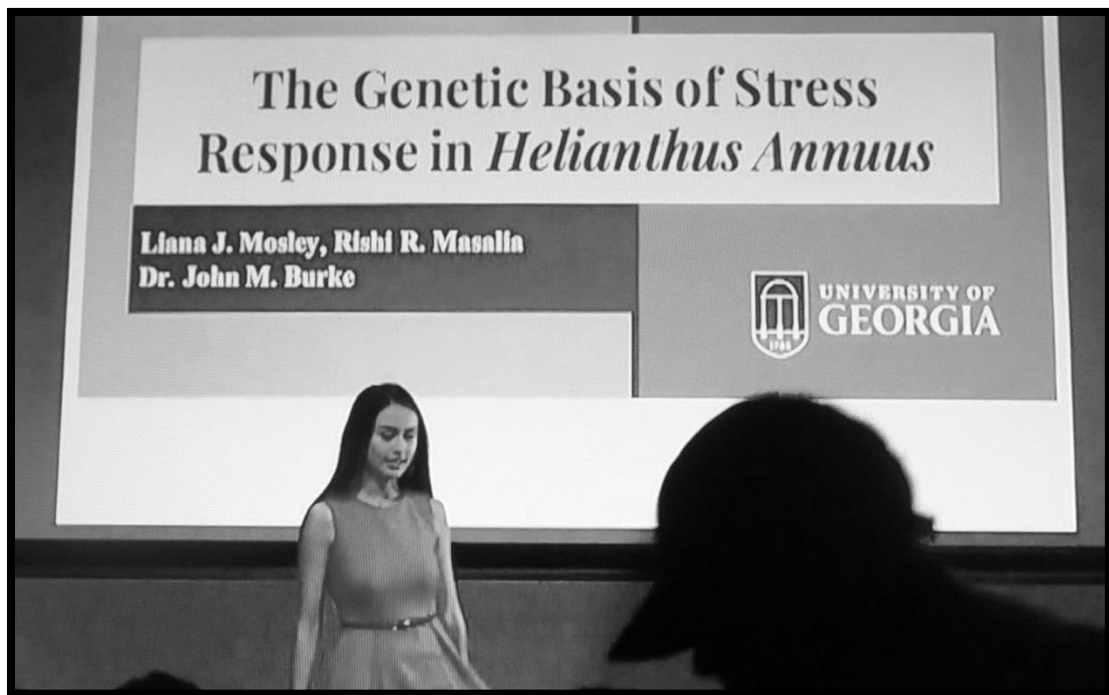
white oak

Points: _____

EXTRA BONUS (1 point)

In a finish for the ages, the University of Tennessee defeated the University of Georgia 34-31 on Saturday. Trailing by 17 in the first half, UT mounted a comeback and led by 4 points late in the fourth quarter after recovering a forced fumble in the end zone. UGA's freshman QB Eason orchestrated a brilliant and poised two-minute drive, ending with a strike to Ridley for a 47 yard TD with only 10 seconds remaining. UGA led 28-31 after the extra point, and UT had only a 0.23% chance of winning the game according to ESPN Stats & Information. Aided by two penalties, UT returned the ensuing kickoff to the UGA 43 yard line with only 4 seconds remaining. In a desperation heave, UT QB Joshua Dobbs hit Jauan Jennings in a crowd of six UGA defenders for the game winning 43 yard touchdown. He actually launched the ball from the UT 49 yard line to the middle of the endzone; it travelled 56 yards in the air. In the words of Bob Kesling, The Voice of the Vols: "TENNESSEE WINS... What a turn of events! Georgia throws a bomb. Tennessee comes back and throws the Hail Mary!" Unbelievable!

However, this has nothing to do with this bonus question. During the fourth quarter, UGA aired a commercial illustrating how their faculty and students overcome challenges to learn. They featured their best. Examine the title of the UGA student presentation in the photograph below. This is an actual frame from the commercial UGA aired on national television promoting UGA. The UGA students made a small taxonomic mistake that we have learned about this semester. What is the mistake these UGA students might have avoided if they attended a better University like SFA?



Points: _____