

**OREGON ENVIROTHON 2018
FORESTRY TEST**

TEAM# _____
TEST TOTAL _____/50 points

PART 1 Tree Identification and Forest Products (10 points)

1a. Given the tree samples on the table, write in the correct species of trees or shrubs using both common and scientific/Latin name. (6 points, (.5 points each))

	Common Name (.5 point each)	Scientific Name (.5 point each)
i.)	Sitka spruce	Picea sitchensis
ii.)	western juniper	Juniperus occidentalis
iii.)	ponderosa pine	Pinus ponderosa
iv.)	bigleaf maple	Acer macrophyllum
v.)	red alder	Alnus rubra
vi.)	Douglas-fir	Pseudotsuga menziesii

1b. Oregon is a leader in manufacturing engineered wood. List 2 examples of engineered wood produced in Oregon? (2 points)

Cross-Laminated Timber- CLT, Mass Plywood Panel -MPP

Glued-Laminated Timber -Glulam, Nail-Laminated Timber-NLT

Laminated Veener Lumber- LVL, Strand Lumber-PSL-LSL-OSL

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**PART 1 Tree Identification and Forest Products
(10 points) continued**

1c. List 2 of the three major forest certification systems used in Oregon? (2 points)

American Tree Farm System

Forest Stewardship Council

Sustainable Forestry Initiative

**PART 2 The Forest Practices Act and Forest Ecology
(10 points)**

Answer the following questions with respect to the Oregon Forest Practice Rules and Forest Ecology. (10 points)

2a. The Forest Practices Act lists three sizes of streams. List the 3 sizes. (3 points, 1 point each)

L-Large

M-Medium

S-Small

2b. Oregon created the “Forest Practices Act”, it was the first state in the nation to create a Forest Practices Act. What year did the Oregon Legislature create the FPA? (1 point)

1971

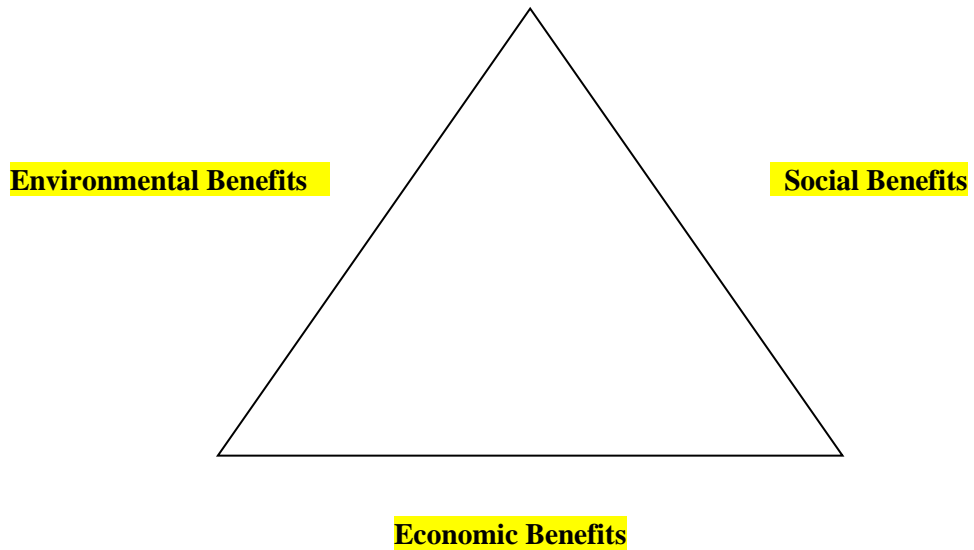
2c. Define “OPERATION” as used in the Oregon Forest Practices Act? (1 point)

any commercial activity relating to establishment, management or harvest of a forest tree species.

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PART 2 The Forest Practices Act and Forest Ecology (10 points) cont.

2d. Complete the forest sustainability triangle and give an example of each benefit. (3 points)



Sustainable Forestry Triangle

2e. Identify the insect below that causes damage to Douglas-fir and true fir trees. (2 points)

See colored photo on table.



Douglas-fir Tussock moth

____/5

PART 3 Tree Measurements (12 points)

Directions: There are four trees marked with the letters A, B, C, D and point E (ground location), and one downed log marked F. By using the tool and information specified below, answer the following questions.

(answers to be filled in when trees chosen)

3a. Using the **Woodland Stick**, what is the Diameter (DBH) of **Tree A**?

_____ (inches) (2 points)

3b. Using a **Diameter or Loggers Tape**, what is the Diameter (DBH) of **Tree B**?

_____ (inches) (2 points)

3c. Using the **Woodland Stick**, what is the total height of **Tree C** given you are **100 feet** from the base of the tree?

_____ (feet) (2 points)

3d. Using a **Clinometer**, what is the total height of **Tree D** given you are **100 feet** away from the base of the tree?

_____ (feet) (2 points)

3e. Using the **diameter (DBH) measurement from Tree B**, and the volume table on the **Woodland Stick**, determine the board foot volume of **Tree B**, given that this tree has much taper.

_____ b.f. (board feet) (2 points)

3f. Standing on **Point E** use a compass to determine the degree of angle between **Tree A** and **Tree C**?

_____ (2 points)

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PART 4 Forest Succession and Growth (12 points)

4a. Using the provided tree 'cookie' sample, answer the following questions.
(4 points, 1 point for each answer)

1. How old was this tree? _____ (1 point)

Count the rings- answers will depend tree cookie selected

2. From the tree cookie sample, were there any indicators that this tree was stressed?
Explain briefly your answer (1 point)

Multiple options- tight growth rings

3. **Describe** a forest management activity and/or silvicultural technique that could have improved the health of this tree. (1 point)

Multiple options- thinning

4. Looking at the first 10 years of growth, **describe** what the forest surrounding this tree looked like at 10 years of age. (1 point)

Multiple options- well spaced trees

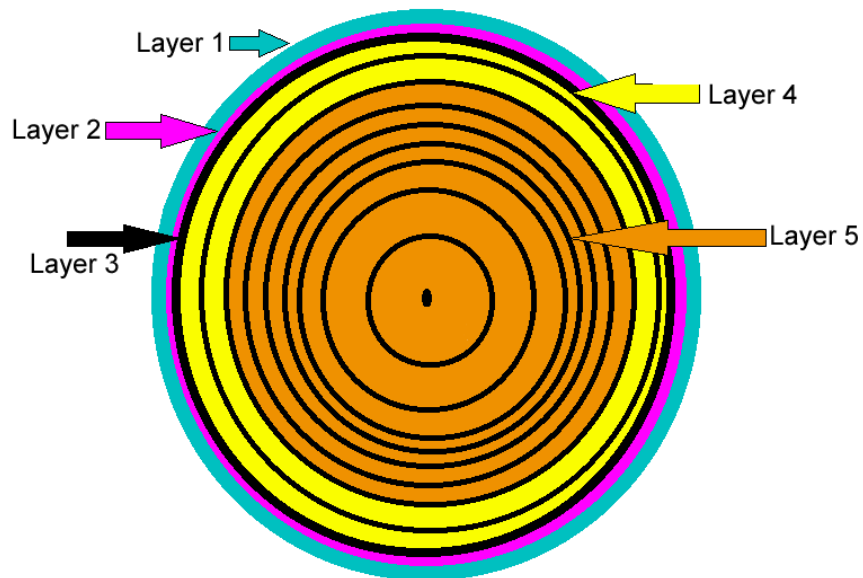
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PART 4 Forest Succession and Growth (10 points) continued

4c. Identify the points on the tree cross section (below). **Write in the correct name of the part and its function.** (5 points, .5 point for each answer)

	Name:	Function:
Layer 1-a)	bark	protects
Layer 2-b)	phloem	moves nutrients from leaves/needles
Layer 3-c)	cambium	new growth occurs
Layer 4-d)	Xylem/sapwood	moves water up from roots
Layer 5-e)	heartwood	structure

Cross-section of a Tree



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PART 5 Western Rangeland Management (6 points)

- 5a. In the last 130 years, Western juniper has become an issue in Eastern Oregon. Describe this issue, how it developed and a possible solution to the situation. (2 points)

Western juniper has become an invasive species due to natural wildfire suppression. They compete for water and nutrients and crowd out understories of forage grasses and shrubs. Trees could be cut and the slash scattered to lessen erosion. Slash can be burned in certain situations to release nutrients or made into wood products.

- 5b. What are some potential impacts to trees a forestland owner needs to consider if portions of the forestland are grazed by livestock? (2 points)

Trees being browsed, trees being trampled, soil compaction, etc

- 5c. Fire is a natural part of rangeland and forest ecosystems, but not all fire is created equal. Describe a positive and negative effect wildfires have on rangelands in Eastern Oregon? (2 points)