

Course outline

How does an NPTEL online course work?

Week 0 :

Week 1:

● Lecture 1 : Introduction

● Lecture 2 : Leaf Area Index- Definition and Basics

● Lecture 3 : Leaf Area Index- Field Measurements

● Lecture 4 : Remote Sensing- Story of Matter and Energy Interactions

● Lecture 5 : Remote Sensing- Optical Properties of Leaf and Canopy

● Week 1 Lecture Material

○ Quiz: Week 1 : Assignment 1

● Feedback for Week 1

Week 2:

Week 3 :

Week 4 :

Assignment Solution

Download Videos

Live Interactive Session

Week 1 : Assignment 1

The due date for submitting this assignment has passed.

Due on 2021-08-18, 23:59 IST.

As per our records you have not submitted this assignment.

1) LAI is measured in _____ Unit

1 point

- a. cm^2
- b. m^2
- c. ha
- d. Dimensionless

No, the answer is incorrect.
Score: 0

Accepted Answers:
d. Dimensionless

2) _____ leaves are more effective in transferring heat and experiencing lethal surface temperature

1 point

- a. Large
- b. Medium
- c. Small
- d. None of these

No, the answer is incorrect.
Score: 0

Accepted Answers:
c. Small

3) The radiation by Sensor is a function of

1 point

- a. Location
- b. Time
- c. Wavelength
- d. All of the Above

No, the answer is incorrect.
Score: 0

Accepted Answers:
d. All of the Above

4) In the process of Photosynthesis, the plants absorb light energy and produce carbohydrates from the CO₂ present in _____.

1 point

- a. Soil
- b. Atmosphere
- c. Ocean
- d. Carbonate Rocks

No, the answer is incorrect.
Score: 0

Accepted Answers:
b. Atmosphere

5) LAI is _____

1 point

- a. A critical vegetation structural variable
- b. Characterises canopy-Atmosphere interface
- c. Used to derive biophysical variables
- d. All of the Above

No, the answer is incorrect.
Score: 0

Accepted Answers:
d. All of the Above

6) _____ includes green and non-green area

1 point

- a. Plant Area Index (PAI)
- b. Wood Area Index (WAI)
- c. Green Area Index (GAI)
- d. Green Leaf Area Index (GLAI)

No, the answer is incorrect.
Score: 0

Accepted Answers:
a. Plant Area Index (PAI)

7) Forest Overstory LAI provides useful inputs on _____

1 point

- a. Surface Runoff
- b. Radiation Interception
- c. Nutrient Availability of Soil
- d. All of the Above

No, the answer is incorrect.
Score: 0

Accepted Answers:
b. Radiation Interception

8) If leaf area of a plant is 40% of ground area, then the LAI is _____

1 point

- a. 0.6
- b. 6.0
- c. 0.4
- d. 4.0

No, the answer is incorrect.
Score: 0

Accepted Answers:
c. 0.4

9) Actual canopy LAI has _____ in Space.

1 point

- a. Finite Dimension and Non-Random Distribution
- b. Infinite Dimension and Non-Random Distribution
- c. Finite Dimension and Random Distribution
- d. Infinite Dimension and Random Distribution

No, the answer is incorrect.
Score: 0

Accepted Answers:
a. Finite Dimension and Non-Random Distribution

10) Beer's law explains maximum value of LAI for a maximal amount of light _____.

1 point

- a. Transmission
- b. Reflection
- c. Scatter
- d. Attenuation

No, the answer is incorrect.
Score: 0

Accepted Answers:
d. Attenuation

11) Interaction of solar energy and plant canopy comprise of _____ effects.

1 point

- a. Thermal
- b. Photosynthetic
- c. Photo-morphogenic
- d. All of the Above

No, the answer is incorrect.
Score: 0

Accepted Answers:
d. All of the Above

12) Sun-lit and Sun-shaded leaves have different _____.

1 point

- a. Energy Dependence
- b. Photosynthetic Rates
- c. Transpiration rates
- d. All of the Above

No, the answer is incorrect.
Score: 0

Accepted Answers:
d. All of the Above

13) Which of the following is not an indirect method of LAI estimate?

1 point

- a. Digital Hemispherical Photography
- b. Leaf Litter Collection
- c. LAI-2000
- d. Decagon

No, the answer is incorrect.
Score: 0

Accepted Answers:
b. Leaf Litter Collection

14) Vegetation with more chlorophyll will reflect more in _____ region of EMR.

1 point

- a. Ultraviolet
- b. Visible
- c. Near-infrared
- d. Thermal infrared

No, the answer is incorrect.
Score: 0

Accepted Answers:
c. Near-infrared

15) Which among the following is not considered as 'Active Remote Sensing'?

1 point

- a. LIDAR
- b. SAR
- c. Visible Reflectance
- d. Thermal

No, the answer is incorrect.
Score: 0

Accepted Answers:
c. Visible Reflectance

16) The 'Red-edge' is defined as the transition between the

1 point

- a. Strong RED absorption and Weak NIR Reflectance
- b. Strong RED absorption and Strong NIR Reflectance
- c. Weak RED absorption and Strong NIR Reflectance
- d. Weak RED absorption and Weak NIR Reflectance

No, the answer is incorrect.
Score: 0

Accepted Answers:
b. Strong RED absorption and Strong NIR Reflectance

17) Strong Water Absorption band is not placed at

1 point

- a. 700-740 nm
- b. 2660nm
- c. 2730 nm
- d. 6279 nm

No, the answer is incorrect.
Score: 0

Accepted Answers:
a. 700-740 nm

18) _____ facilitates the exchange of CO₂, H₂O and O₂ between the leaf surface and atmosphere.

1 point

- a. Stomata
- b. Epidermis
- c. Xylem
- d. Cuticle

No, the answer is incorrect.
Score: 0

Accepted Answers:
a. Stomata

19) Specular reflection occurs for a _____ surface.

1 point

- a. Rough
- b. Smooth
- c. Plant
- d. None of the Above

No, the answer is incorrect.
Score: 0

Accepted Answers:
b. Smooth

20) _____ measure diffuse radiation transmission in 5 concentric rings

1 point

- a. DHP
- b. TRAC
- c. LAI-2000
- d. DCP

No, the answer is incorrect.
Score: 0

Accepted Answers:
c. LAI-2000