

# KERALA AGRICULTURAL UNIVERSITY

B.Sc( Hons.) Forestry, 2012 Admission  
VI<sup>th</sup> Semester Final Examination-July -2015

Cat. No: Tpbr.3209  
Title: Forest ecophysiology (2+1)

Marks: 80  
Time: 3 hours

I Fill up the blanks /True or False . (10x1=10)

a. True / False

1. LAI is expressed in units of  $m^2/g$
2. True shade plants are obligate sciophytes
3. Xerophytes are drought avoiding plants
4. Under a canopy the quantity of the solar radiation is reduced while the quality remains unaltered.
5. Water vapor is a strong absorber in UV range of electromagnetic spectrum

b. Fill up the blanks

6. Average adiabatic lapse rate is \_\_\_\_\_ degree celcius for 1000 meters altitude
7. About 98 % of the solar radiation is in the wave bank from \_\_\_\_\_ to \_\_\_\_\_ nm
8. Phytochrome is involved in \_\_\_\_\_
9. \_\_\_\_\_ closure of stomata results from direct rapid water loss form the guard cells
10. \_\_\_\_\_ injury occurs at temperatures too low for normal growth but not low enough to form ice.

II. Writer short notes / answers etc. on any ten

(10x3=30)

1. Crop growth rate
2. NDVI
3. HSP
4. Combatable osmolites
5. LEA proteins
6. Net ecosystem exchange of carbon
7. Phytochrome
8. Growing degree days
9. Differentiate between desiccation postponement and desiccation tolerance
10. Differentiate between halophytes and glycophytes
11. Differentiate between sensible heat and latent heat
12. Differentiate between sciophytes and heliophytes

Write essays on ANY SIX of the following

(6x5=30)

1. Optical properties of leaf
2. Thermoperiodism in plants
3. Differentiate between sun leaves and shade leaves
4. Evapotranspiration models for forest canopies
5. Resistance mechanism in halophytes
6. Acclimatisation and adaptation
7. Effect of salt stress on plants
8. Low Temperature stress in plants

Write essay on any ONE

(1x10=10)

1. Write an essay on plant stress and describe the various abiotic stresses encountered by plants
2. Describe the methods of estimating potential of evapotranspiration in field