



# KERALA AGRICULTURAL UNIVERSITY

B.Sc. (Hons.) Forestry 2014 Admission  
VI<sup>th</sup> Semester Final Examination-July- 2017

Cat. No: Tpbr 3209

Title: Forest Ecophysiology (2+1)

Marks: 50.00

Time: 2 hours

- I Fill in the blanks/State True or False: (10 x 1=10)**
- 1 Translocation of sucrose in trees takes place through ----- tissues.
  - 2 ----- is an example of sun plant.
  - 3 ----- chloroplasts is one of the adaptive feature of shade plants.
  - 4 ----- is a growth analysis index to determine the biomass production of trees.
  - 5 Low chlorophyll to rubisco ratio is a characteristic feature of ----- plants.
  - 6 The ratio of photosynthesis to transpiration gives the ----- of trees.
  - 7 Elevated CO<sub>2</sub> concentration ----- the stomatal conductance of trees.
  - 8 Photosynthesis of tree crops can be measured using -----
  - 9 Pine forest is an example for Temperate needle forest (T/F)
  - 10 Methane is the Green house gas that has a high radiative forcing (T/F)
- II Write short notes on any FIVE (5 x 2=10)**
- 1 Thermoperiodism.
  - 2 Heat shock proteins.
  - 3 Carbon sequestration.
  - 4 Stomatal conductance.
  - 5 Types of forests.
  - 6 Leaf area index.
  - 7 Photophosphorylation.
- III Answer any FIVE (5 x 4=20)**
- 1 Source – sink relationship.
  - 2 Evapotranspiration.
  - 3 Halophytes and their tolerance mechanisms.
  - 4 Mechanism of photosynthesis in plants.
  - 5 Canopy productivity.
  - 6 Turbulent transfer among forest canopies.
  - 7 GPP and NPP of forest stands.
- IV Write essay on any ONE (1 x 10=10)**
- 1 Explain the light interception and utilization by sun and shade plants. What are the differences between sun and shade plants.
  - 2 How is the forest ecosystem classified. Explain the geography and climatic factors of the forest ecosystems.

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