



KERALA AGRICULTURAL UNIVERSITY
B.Sc (Hons.) Forestry 2016 Admission
II Semester Final Examination-August-2017

Fbti.1203

Plant Physiology (2+1)

Marks: 50
Time: 2 hours

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

- 1 Pr form of phytochrome is converted to Pfr form by ----- light.
- 2 Thylakoids are present in the ----- of chloroplast.
- 3 The first stable product of Calvins' cycle is -----
- 4 The metal ion involved in stomatal movement is -----
- 5 Pine forest is an example for Temperate needle forest (True/False)
- 6 Low chlorophyll to rubisco ratio is a characteristic feature of ----- plants.
- 7 Methane is the Green house gas that has a high radiative forcing (True/False)
- 8 The ratio of photosynthesis to transpiration gives the ----- of trees
- 9 Elevated CO₂ concentration ----- the stomatal conductance of trees.
- 10 Define apical dominance.

II Write short notes on any FIVE (5x2=10)

- 1 Heat shock proteins
- 2 Leaf area index
- 3 Photophosphorylation
- 4 Water potential
- 5 Photoperiodism
- 6 Vernalization
- 7 Thermoperiodism

III Answer any FIVE (5x4=20)

- 1 Evapotranspiration
- 2 Halophytes and their tolerance mechanisms.
- 3 Physiological adaptation to chilling stress.
- 4 GPP and NPP of forest stands
- 5 Give an account of Krebs' cycle with a neat diagram. How many reduced coenzymes are produced during the cycle?
- 6 What is photorespiration? Give the mechanism of photorespiration in C₃ and CAM plants.
- 7 What is meant by water potential? Explain the movement of water from soil to leaf.

IV Write essay on any ONE (1x10=10)

- 1 Explain the mechanism of photosynthesis in C₃, C₄ & CAM plants. Enumerate the differences between C₃ and C₄ plants.
- 2 Explain the Light interception and utilization by sun and shade plants. What are the differences between sun and shade plants?
