



KERALA AGRICULTURAL UNIVERSITY
B.Sc.(Hons) Forestry 2017 Admission
II Semester Final Examination- August 2018

Fbti.1203

Plant Physiology (2+1)

Marks: 50
Time:2 hours

I State whether following sentences are true or false (10x1=10)

- 1 Phloem contents are transported from high water potential to low water potential.
- 2 In a tropical xeric condition tree develops short leaves with small crown.
- 3 Shade tolerant species have low light compensation point because of lower photosynthetic rates.
- 4 During reforestation, net productivity is large at early stage and then at maturity it will reaches up to zero.
- 5 Light respiration occurs in leaves while dark respiration occurs in all living plant tissues.
- 6 In rainforest, understory plants have less induction period for photosynthesis.
- 7 Both xylem and sieve tube cells lacks nucleus.
- 8 Optimum LAI for any crop is the LAI where maximum CGR is achieved.
- 9 Growth in higher plants takes place by the growing points scattered all over the plant body.
- 10 The water potential of pure water is always zero.

II Write Short notes on any FIVE of the following (5x2=10)

- 1 Water potential and its component
- 2 Criteria of nutrient essentiality
- 3 Responses of plants to drought
- 4 Factor affecting photosynthesis
- 5 Physiological role of auxins
- 6 Osmotic adjustment
- 7 Net assimilation rate

III Answer any FIVE of the following. (5x4=20)

- 1 Opening and closing of stomata.
- 2 Differentiate between sun and shade adapted plants.
- 3 Explain why transpiration is a necessary evil.
- 4 Relationship between crown shape and productivity.
- 5 Differentiate between transpiration and evaporation.
- 6 Different theories of ascent of sap. Explain any one in brief.
- 7 Explain Glycolysis with the help of diagram.

IV Write an essay on any ONE of the following (1x10=10)

- 1 Mechanism of CO₂ fixation in C₄ plants.
- 2 Munch hypothesis with suitable diagram.
