



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

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Paps. 1201

Fundamentals of Crop Physiology (2+1)

Marks: 50  
Time: 2 hours

**I Fill in the blanks:**

(10 x 1=10)

- 1 Example for a monocarpic perennial -----
- 2 Periodic meristematic regions are called -----

**Choose the correct answer**

- 3 Principle cation for maintaining cell turgor.  
a Hydrogen b Nitrogen c Potassium
- 4 Carbon dioxide reduction occurs in  
a Thylakoid b Stroma c Grana
- 5 Kranz anatomy is shown by  
a C<sub>3</sub> b C<sub>4</sub> c CAM

**Name:**

- 6 The formula for calculate crop growth rate (CGR)
- 7 Pigment involved in light sensitivity of seed.
- 8 Nutrient essential for auxin biosynthesis in plants.

**State True or False:**

- 9 H<sub>2</sub>O<sub>2</sub> is produced during photorespiration in plants (T/F)
- 10 Kaolin is a stomatal closing type antitranspirant (T/F)

**II Write short notes on any FIVE:**

(5 x 2=10)

- 1 Warburg's effect. ✓
- 2 Mechanism of stomatal opening.
- 3 Respiratory Quotient (RQ). ✓
- 4 Give an account on long day plants. ✓
- 5 Anaerobic respiration and its significance.
- 6 Cyclic and non cyclic electron transport.
- 7 What is foliar nutrition and what are the advantages of it?

**III Answer any FIVE:**

(5 x 4=20)

- 1 Biosynthesis, mode of action and commercial use of auxin.
- 2 Physiological role of Fe, Zn and Magnesium in plants.
- 3 Give a short account on NAR, CGR, RGR, LAI and Harvest index.
- 4 Importance and properties of water in relation to plant growth.
- 5 Explain the growth phases of rice crop. ✓
- 6 Photosynthetic efficiency and crop productivity.
- 7 Krebs cycle.

**IV Write essay on any ONE:**

(1 x 10=10)

- 1 Explain the commercial use of plant growth regulators in agriculture and horticulture.
- 2 Discuss the mechanism of carbon fixation in C<sub>3</sub>, C<sub>4</sub> and CAM plants with suitable diagram.

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