



**KERALA AGRICULTURAL UNIVERSITY**  
**B.Sc. (Hons.) Ag.**  
**Re-examination - July 2019**  
**2015 and previous admission**

Crps.2201

**Crop Physiology (2+1)**

**Marks: 50**  
**Time: 2 hours**

**I Fill in the blanks (10x1=10)**

- 1 The deficiency of.....nutrient causes Heart rot of sugar beet.
- 2 .....number of net ATP gain in oxidation for one molecule of glucose in anaerobic respiration.
- 3 .....hormone induces the ripening in fruits.
- 4 .....hormone is produced under water stressed condition.
- 5 .....is the water potential of pure water.
- 6 .....potential and (7) .....factors influences plant growth and development.
- 8 Cytokinin synthesis occurs in.....part of the plant.
- 9 .....are the substances which are able to reduce transpiration.
- 10 The shape of a typical annual crop growth curve is.....shaped.

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

- 1 Explain the various types of Transpiration.
- 2 Criteria of essentiality of plant nutrients.
- 3 Triple response of ethylene.
- 4 Climacteric and non climacteric fruits with examples.
- 5 Explain anaerobic respiration.
- 6 Significance of photorespiration.
- 7 Role of hormones in morphogenesis.

**III Answer ANY FIVE of the following (5x4=20)**

- 1 Explain Hill reaction, red drop and emersion enhancement effect.
- 2 Define fruit ripening? Describe various metamorphic changes during fruit ripening.
- 3 Morphological and physiological changes during seed development.
- 4 Classification of plants based on photoperiodism with examples.
- 5 Classification of essential nutrients based on their biochemical role and physiological function.
- 6 Explain the WUE in C<sub>3</sub>, C<sub>4</sub> and CAM type plants.
- 7 Physiological role of Potassium and Iron.

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

- 1 Describe the biosynthesis, mode of action and physiological role of auxins.
- 2 Describe in detail the C<sub>3</sub> cycle pathway with enzymes.

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