



**KERALA AGRICULTURAL UNIVERSITY**  
**B. Sc. (Hons.) Ag. 2018 admission**  
**II Semester Final Examination-July-2019**

ps.1201

**Fundamentals of Crop Physiology (2+1)**

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

**I State True or False (10x1=10)**

- 1 In CAM plants PEP carboxylase enzyme active during night.
- 2 The xerophytic plants have very low stomatal frequency and they are open during night.
- 3 Bundle sheath cells of wheat leaf are not specialized.
- 4 Oxidative pentose phosphate pathway operates in mitochondria.
- 5 During photorespiration  $H_2O_2$  is degraded by the enzyme RUBPase .
- 6 Opening and closing of stomata is controlled by Bundle sheath cells.
- 7 Tomato is a short day plant.
- 8 Greenness of plants is due to presence of Cytokynin.
- 9 CGR is the rate of dry matter production per unit of leaf area.
- 10 Whiptail of cauliflower is due to deficiency of Molybdenum.

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

- 1 Vernalization
- 2 Florigen
- 3 Hydroponics
- 4 Electron Transport chain
- 5 Phytochrome
- 6 Osmosis and Diffusion
- 7 Ascent of sap

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

- 1 Difference between C3 and C4 Plants and give an examples.
- 2 Differentiate Photophosphorylation from oxidative phosphorylation.
- 3 Explain the mass flow hypothesis.
- 4 Explain the physiological role of Gibberllin.
- 5 Explain the mechanism of opening and closing of stomata.
- 6 Explain why the C4 plants are more efficient than C3 plants.
- 7 Role of Cytokinin in chloroplast during leaf senescence, give an example.

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

- 1 Write the role deficiency symptoms of any five micro elements and Explain the corrective measures.
- 2 What is Growth analysis? Explain the different growth parameters influencing the growth and productivity of the crops.

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