

KERALA AGRICULTURAL UNIVERSITY

B.Sc. Hons (Ag) 2010 Admission

IVth Semester Final Examination, July /August 2012

Cat. No: Crps.2201

Title: Crop Physiology (2+1)

Marks: 80

Time: 3hours

I. Choose the correct answer / state whether true

(10 x1=10)

1. Transport limiting crop
A) Rice B) Maize C) Redgram D) Sugarcane.
2. LAI is high for
A) Rice B)Cucumber C)Blackgram D)Brinjal
3. During the synthesis of one glucose molecule, 18 ATP molecules are utilized.
True / false
4. Soy bean is a C₄ plant- true / False
5. Growth retardant chemical
A) Cytokinins B) Florigen C) Gibbrellins D) Cycocel
6. Whiptail of Cauliflower is caused by Molybdenum deficiency. -True/False
7. Kaolin is a reflective type of antitranspirant- True/False
8. Unit of CGR g⁻¹m⁻²day. True / False
9. During germination, Starch is hydrolysed into maltose in the presence of α-amylase and β- amylase. True / False
10. Rice is a Short – day plant. True / False

II. Write short notes / answers on any ten

(10 x 3 = 30)

1. Difference between physiological maturity and harvestable maturity.
2. Factors affecting seed germination.
3. Classification of dormancy
4. List the functions of high energy phosphates.
5. Explain the production of assimilatory power.
6. Factors influencing seed storage (ISTA standards).
7. Explain Source-Sink relationship.
8. Explain Alternate respiration, salt respiration and wound respiration.
9. Define :Hydroponics and aeroponics .
10. Classification of Plant Growth Regulators.
11. Mechanism of senescence.
12. Significance of Abscission.

III. Write short essays on any six of the following

(6 x 5 = 30)

1. Explain the factors affecting photosynthesis and respiration
2. Explain the components of water potential.
3. Explain Seed dormancy, Causes of dormancy and measures for breaking dormancy.
4. Explain foliar nutrition and hydroponics. Give their advantages and disadvantages.
5. Explain the methods of testing seed viability and vigour.
6. Importance of crop physiology in agriculture.
7. Explain photoperiodism and vernalisation in relation to crop productivity.
8. Biosynthesis and mode of action of ABA and Ethylene.

IV. Write short essays on any one of the following

(1 x 10 = 10)

1. Briefly discuss about the physiological role of mineral nutrition in crop growth and development.
2. Explain in detail the photosynthetic electron transport system (PETC) in plants.