

KERALA AGRICULTURAL UNIVERSITY

B.Sc Hons (Ag) 2011 Admission

IIIrd Semester Final Examination- January /February -2013

Cat. No: Pbg.2103

Title: Principles of Plant Breeding (2+1)

Marks: 80

Time: 3 hours

I. Fill in the Blanks

(10 x 1=10)

1. _____ is a natural permanent heterozygote.
2. Self incompatibility was first reported by _____ in -----species.
3. _____ hybridization involves crossing between two genotypes of the same species .
4. Seed mixtures of isolines / closely related lines is called _____
5. Clonal selection is followed in _____ crops .

State True or False

6. Maleic hydracide is an example for female gametocide.
7. Polyploidy can be induced by GA3.
8. Redgram is often cross pollinated crop.
9. Jack fruit is an example of recalcitrant seed.
10. IITA is located in Mexico.

II. Write Short notes on (Any ten)

(10 x3 = 30 Marks)

1. Primary centres of diversity
2. Plant quarantine .
3. Significance of vegetative reproduction
4. Mechanisms to promote autogamy.
5. Measures to overcome self incompatibility
6. Single Seed Descent method
7. Achievements in mutation breeding
8. Oligogenic inheritance and polygenic inheritance

9. Differentiate between breeder seed and certified seed
10. Plant introduction
11. Molecular markers
12. Nobilisation

III. Write short essays on Any Six

(6 x 5 = 30 Marks)

1. Explain the breeding methods followed for the improvement of self pollinated crops
2. Write the procedures for release of a variety and notification
3. Explain the backcross method of breeding with examples
4. Write about the different types of apomixis
5. Define heterosis. Write the theories of heterosis.
6. Compare and contrast between random mating, inbreeding and outbreeding with examples.
7. Write two examples for different types of male sterility systems available. Write their advantages and disadvantages.
8. Write the significance of wide hybridization in plant breeding

IV. Write essay on any One

(1x 10 = 10 Marks)

1. Write an essay on innovative approaches in plant breeding
2. Compare and contrast between pure line selection, mass selection, pedigree breeding and bulk method.