Principles of Plant Breeding

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Mid-term Examination

B. Sc. (Horticulture) II Semester 2014

Paper HPG101 : Principles of Plant Breeding

Time: One Hour M.M: 20.00

A. Objective Types Questions:

i. Fill in the blanks: 1.0(0.5x2)

I. Proportion of homozygocity of a population calculated by the formula----------

II. Pure lines theory developed by Johannsen in ---------- 1905

ii. Match the followings: 1.0

i.	Inbred	a.	Heterozygous homogeneous
ii.	Hybrids	b.	Homozygous homogeneous
iii.	Composite varieties	c.	Homozygous heterogeneous
iv.	Multiline varieties	d.	Heterozygous heterogeneous

iii. Define the followings terms: 2.0

i. Hardy-Weinberg law

ii. Half sibs

iii. F_1 generation

iv. Inbred line

iv. Write whether following statements are true or false. 4.0(0.5x8)

I. In bulk method a record of parents and off- spring relationship is necessary. False

II. Mass selection for highly heritable traits can be effectively practiced in bulk population

III. Transfer of quantitative characters with low heritability are suitable for transfer through back cross method. ~~False~~ True

IV. For back crossing method, recurrent parent must not be popular variety. False

V. In back cross method the non recurrent parent is selected for the character that is to be improved in recurrent parent. True

VI. Pure lines are homozygous heterogeneous False

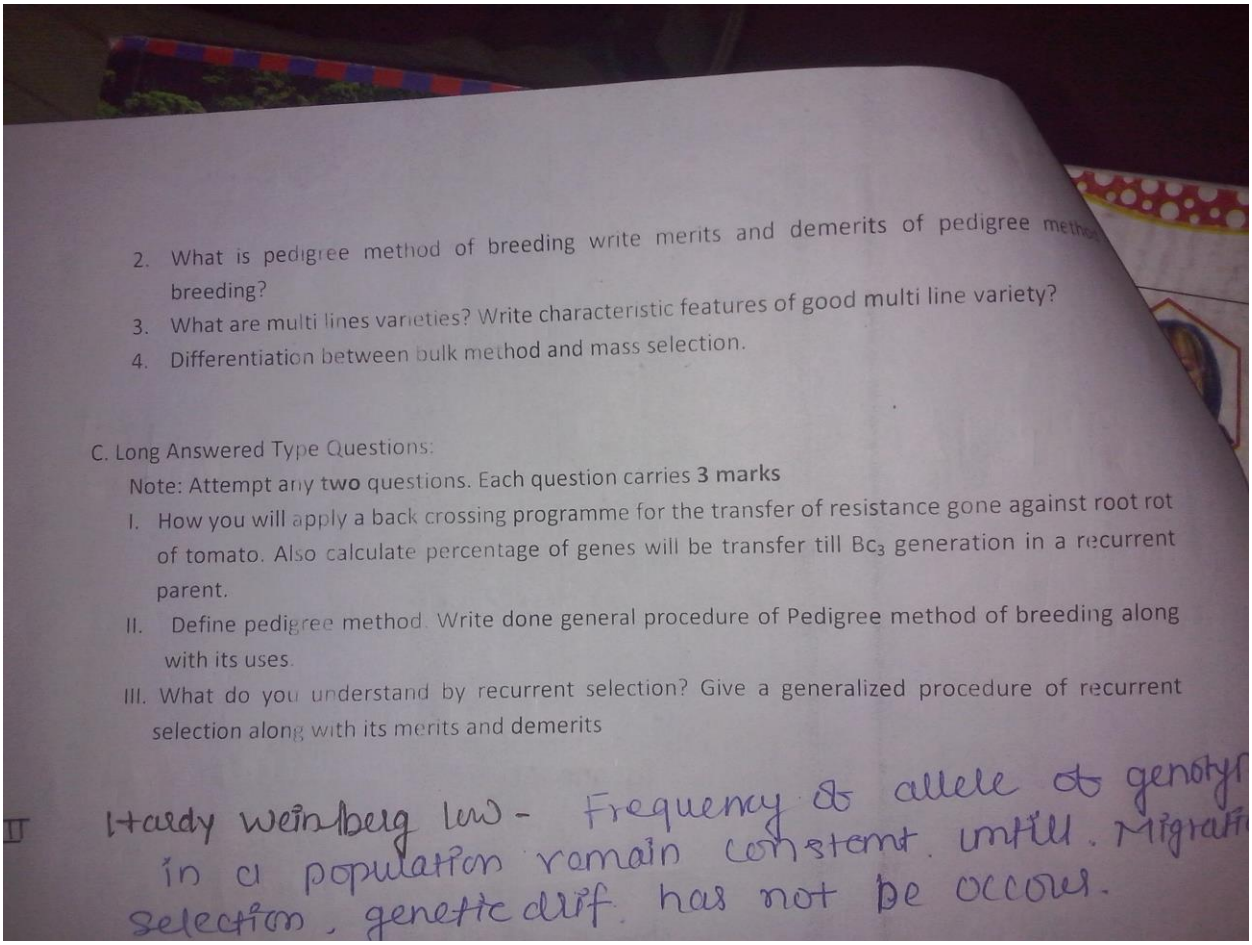
VII. Evaluation of worth of plants on the basis of performance of their progenies' is known as progeny test. True

VIII. The chief objective of hybridization to create genetic variation. True

B. Short Answered Type Questions:

Note: Attempt any **three** questions. Each question carries 2 marks

1. Define pure lines. Write down the basic reasons for genetic variation in pure lines.



2. What is pedigree method of breeding write merits and demerits of pedigree metho breeding?
3. What are multi lines varieties? Write characteristic features of good multi line variety?
4. Differentiation between bulk method and mass selection.

C. Long Answered Type Questions:

Note: Attempt any **two** questions. Each question carries **3 marks**

I. How you will apply a back crossing programme for the transfer of resistance gone against root rot of tomato. Also calculate percentage of genes will be transfer till Bc_3 generation in a recurrent parent.

II. Define pedigree method. Write done general procedure of Pedigree method of breeding along with its uses.

III. What do you understand by recurrent selection? Give a generalized procedure of recurrent selection along with its merits and demerits

II Hardy weinberg law - Frequency of allele of genotyp in a population remain constant. unless. Migrati selection, genetic drif. has not be occurs.