



**KERALA AGRICULTURAL UNIVERSITY**

**B. Sc. ( Hons.) Ag 2017 Admission**  
**II Semester Final Examination-July-2018**

n.1202

**Fundamentals of Plant Breeding (2+1)**

**Marks: 50**

**Time: 2 hours**

**(10x1=10)**

**Choose the correct answer**

- 1 A cross between Single cross hybrid and open pollinated variety is  
a Double top cross    b Double cross    c Top cross    d Three way cross
- 2 Protoandry and Protogyny leads to reduction in  
a Heterozygosity    b Homozygosity    c Population mean    d All of these
- 3 In case of Gametophytic self- incompatibility, mating between S1S2 and S3S4 leads to following type of reaction  
a Fully compatible    b Fully incompatible    c Partially compatible    d None of these
- 4 In male sterility, the pollen is  
a Shrivelled    b Abortive    c Non-functional    d Any of these
- 5 Heterobeltiosis is estimated over  
a Better parent    b Commercial hybrid    c Mid-parent    d First parent
- 6 The yield of a synthetic variety is always higher than  
a Single cross hybrids    b Open pollinated variety  
c Double cross hybrids    d All of these
- 7 The gradual loss of variability in the cultivated forms and wild relatives is called  
a Genetic erosion    b Linkage drag    c Genetic exploitation    d None of these
- 8 Polyploidy is used in the crop improvement of  
a Watermelon    b Sugarbeet    c Banana    d All of these
- 9 The first intergeneric hybrid with a great potential was  
a Raphanobrassica    b Triticale    c Wheat    d Rye
- 10 Highest uniformity is observed in a  
a Double cross    b Single cross    c Multiple cross    d Three way cross

**Write Short notes on ANY FIVE of the following**

**(5x2=10)**

- 1 Wide hybridization
- 2 Marker Assisted Selection
- 3 Apomixis in plant breeding.
- 4 Centers of origin as given by Vavilov.
- 5 Participatory Plant Breeding.
- 6 Plant Introduction.
- 7 Domestication

**Answer ANY FIVE of the following**

**(5x4=20)**

- 1 Differentiate between Synthetics and Composites
- 2 Concept of Pure line as given by Johannsen (1903)

- 3 Steps in single cross hybrid development
- 4 List different types of recurrent selection schemes and explain any one.
- 5 What is Clonal selection and list the merits and demerits of Clonal selection
- 6 Allopolyploidy in the evolution of Brassica
- 7 Write the genetic basis of heterosis

**IV Write an essay on ANY ONE of the following**

- 1 Write the different applications of backcross breeding method and explain the procedure for dominant gene transfer.
- 2 Mention different types of male sterility. Explain in detail about the cytoplasmic genetic male sterility

(1x10=10)

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